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ABSTRACT

The effectiveness of the Partnership for Academic and Career Education (PACE) model tech prep initiative was evaluated in a 2-year study conducted by the Academy for Educational Development. Information for the evaluation was collected through site visits to 13 of the 20 secondary schools (9 high schools and 4 career centers) in the 3 counties participating in the PACE consortium and 3 separate surveys administered to students, faculty, and staff at the schools. The first two surveys were given to all graduating seniors (approximately 2,500 students in 16 schools) and all faculty and staff (730 individuals) in the spring of 1993. The final survey was administered to a selected group of 400 of the originally surveyed students 1 year after graduation. Three of the schools had well-developed tech prep programs, and three had less-established programs. The surveys and site visits confirmed the PACE model's claims that students will be more motivated in tech prep and that staff in tech prep schools will see better results. (Eighteen tables/figures are included. Appendixes constituting approximately 60% of the document contain 10 tables of data about students not planning to attend a four-year college and the various surveys and assessment inventories for tech prep implementation.) (MN)

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PARTNERSHIP FOR ACADEMIC AND CAREER EDUCATION

June 1995

PACE Model Tech Prep Education Project

Evaluation Report

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Academy for Educational Development

PARTNERSHIP FOR ACADEMIC AND CAREER EDUCATION

June 1995

PACE Model Tech Prep Education Project

Evaluation Report

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AED

Academy for Educational Development

June 26, 1995

Ms. Diana M. Walter
Executive Director
Partnership for Academic and Career Education
P.O. Box 587
Pendleton, South Carolina

Dear Diana:

Enclosed are an original and three copies of the Academy's evaluation report on the Partnership for Academic and Career Education (PACE) Model Tech Prep Education Project, "Facilitating Educational Reform Through Practitioner-Based Sharing".

The Academy team consisted of John Lee, president of JBL Associates, myself, and staff from both organizations. In January 1993, we undertook a two-year evaluation of the PACE Model Tech Prep initiative. Our evaluation included study of other Tech Prep models and school reform initiatives as well as examination of the PACE model. Based on these investigations, John Lee and I have concluded that the PACE model is one of the most exemplary programs of its kind in the nation.

The members of the PACE Board and staff, and the administration, teachers and counselors of the PACE schools deserve great credit for bringing about significant educational reform that provides better preparation for and access to postsecondary occupational programs, and clearer paths to rewarding technology career opportunities in the workplace. The demonstrated capacity to effect comprehensive school reform is what makes the PACE model significant and distinctive.

John Lee and I wish to extend our thanks to you and your staff and all those who participated in the evaluation. Without your cooperation and contributions this evaluation would not have been possible.

Congratulations and best wishes for continued success.

Sincerely,

Paul Bucci

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ACKNOWLEDGEMENT

We would like to thank all those who contributed to the production of this report.

At JBL Associates, Lea Williams collected and organized the surveys' results, Suzanne Clery helped with data generation and analysis, Chris Carter prepared data tables, Robert Harmon helped write and edit sections of the report, and Mary Lee formatted and reviewed the text and tables.

At the Academy for Educational Development, Doug Evans helped refine the evaluation design and analytic methods, Renee Trent formatted the survey instruments, Michelle Miller helped analyze the survey results, and Felicia January helped collect and organize data.

We would also like to acknowledge and thank Diana Walter and Johnny Wallace for their assistance with data collection and review of this report. Their useful critiques, and the input that they conveyed from the project evaluation committee, greatly improved the report.

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EXECUTIVE SUMMARY

The Academy for Educational Development conducted a study of the PACE Model Tech Prep Education Program and its effectiveness in providing high school students with an alternative to the traditional general education or vocational education for non-baccalaureate bound students who might seek a mid-level technology career.

The Partnership for Academic and Career Education (PACE) was established in 1987 as a business and education consortium organized by Tri-County Technical College to initiate Tech Prep programs in Anderson, Oconee and Pickens Counties of South Carolina. The current partnership includes seven school districts with sixteen high schools and four regional career centers in these three counties. In addition, Tri-County Technical College, The Career and Technology Center of Anderson, Oconee and Pickens Counties, and Clemson University College of Education all participate in the partnership.

The information for this evaluation was collected with three separate surveys administered in the spring of 1993 and 1994 to students, faculty and staff at all high schools and career centers in the tri-country area. The first two surveys were given to all graduating seniors, and all the faculty and staff, in the spring of 1993. The last was given to a selected group of the same students one year after graduation, in 1994. The purpose of these surveys was to assess the accuracy of the Tech Prep claims of effectiveness. Additionally, nine high schools and four career centers were visited by representatives from the Academy for Educational Development in the spring of 1994 for site interviews of the faculty, staff and students.

The study examined in detail the results of the surveys from six high schools. Three of the schools had well-developed Tech Prep programs, called *experienced* in this report, and three had less established programs, called *beginning*. The evaluation team compared results of the surveys from both groups to determine the strength of the claim that Tech Prep provides better outcomes for students than traditional general education and vocational education programs.

The student surveys revealed that the respondents in *experienced* Tech Prep classes had a more positive attitude about their high school career and were more motivated to participate in the education process. Teachers in *experienced* Tech Prep programs related generally better results than those in the *beginning* programs. In both the *experienced* and *beginning* programs, data from the surveys supported PACE's claims for Tech Prep.

The study could not confirm two claims for Tech Prep: (1) that Tech Prep increases the high school-to-community/technical college transition rates of these students; and (2) that Tech Prep increases the school-to-work or college-to-work transition rates of these students, where work is defined as a job in a mid-level technology career field that is both related to their educational training and has career development potential.

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1. INTRODUCTION

The purpose of this report is to evaluate the effectiveness of Tech Prep as an alternative to the traditional general and vocational education tracks, and to assess the advantages it provides high school students in preparation for postsecondary enrollment and/or employment. The Academy for Educational Development (AED) evaluated a two-year (January 1993-January 1995) model Tech Prep education project under the U.S. Department of Education's "Demonstration Projects for Integration of Vocational and Academic Learning" (CFDA 84.248) national grant program, authorized under the Carl D. Perkins Vocational and Applied Technology Education Act. The model Tech Prep program chosen for evaluation was administered by the Partnership for Academic and Career Education (PACE) Model Tech Prep Program initiative in South Carolina. The title of the project which AED evaluated is: *PACE Model Tech Prep Education Project, Facilitating Educational Reform Through Practitioner-Based Sharing.*

2. WHAT IS TECH PREP?

Tech Prep is a major education reform movement aimed at providing continuity of learning and quality of education opportunities for all students. Since only 25 to 30 percent of high school students eventually achieve a baccalaureate degree, according to the U.S. Department of Education, Tech Prep provides options for the 70 to 75 percent of students who might otherwise gravitate to low paying, low skilled jobs after graduation. As the skills demanded of entry level positions increase with advances in technologies, so does the need for well trained candidates to fill those positions. Traditional high school general education programs fail to provide this training, so graduates are at a disadvantage as employers seek more skilled candidates.

Tech Prep programs seek to improve the employment potential of high school graduates through a collaboration among local business communities, community colleges and high schools. Through these programs, traditional teaching methods are radically altered to provide a more focused and interactive curriculum designed to put students who are not preparing for a baccalaureate program onto a career track. The expectation is that if students are given guidance and a reformed curriculum early in their high school career, they will have the motivation and skills to move on to vocational schools, community colleges and other types of postsecondary education. Even those students who choose to bypass postsecondary education should have stronger academic and technical skills and be able to secure better paying jobs.

The goal of the Tech Prep program is to provide students with a coordinated sequence of course work leading from high school to a postsecondary degree and/or more meaningful employment. Tech Prep departs from the traditionally held vision of education as a lecture-based environment. By integrating educational and occupational subjects and fostering cooperative student-student and student-teacher relationships, Tech Prep programs mimic workplace learning skills and lead to a freer exchange of ideas. This results in greater involvement on the part of the students. Since Tech Prep stresses career exploration and counseling, students exposed to the program early in their high school careers understand that a successful high school career can lead to postsecondary education and career-oriented employment. The goals they strive for become tangible rather than abstract.

As a new approach to education, Tech Prep program success requires cooperation from many sources. School administrators must be willing to part with long held beliefs about the value of traditional teaching methods and embrace the approaches outlined in Tech Prep. Faculty and staff must be motivated to undertake radical changes and to become involved in the planning of the curriculum. Members of the local community need to become involved and work with the schools in developing programs to ensure that the education and training students receive meets the demands of the jobs they will be expected to enter upon graduation. School counselors must provide students with career counseling in addition to the traditional college and postsecondary school advice. In general, the school and community must work together to create the kind of learning environment that prepares students for a smooth transition from school to work.

A successful Tech Prep program can generally be characterized by the following criteria:

- Students are more positive about their high school education.
- Students have higher self-esteem and self-confidence.
- Students have better developed career and education goals.
- Faculty and staff are more positive about the success of the school.
- A higher proportion of non-baccalaureate bound students seek a postsecondary technical degree.

3. THE PACE APPROACH TO TECH PREP

A. History of the Program

The Partnership for Academic and Career Education (PACE) was established in 1987 as a business and education consortium organized by Tri-County Technical College to initiate Tech Prep programs in Anderson, Oconee and Pickens Counties of South Carolina. The current partnership includes seven school districts with sixteen high schools and four regional career centers in these three counties. In addition, Tri-County Technical College, The Career and Technology Center of Anderson, Oconee and Pickens Counties, and Clemson University College of Education all participate in the partnership.

PACE serves predominantly rural and small urban communities in the Appalachian region of the state which traditionally have had lower economic and educational attainment relative to the rest of the state. The PACE consortium receives funding from a combination of federal, state and local sources.

B. The Purpose of the PACE Tech Prep Program

The PACE Tech Prep initiative is designed to help motivate more young people to finish high school, to complete more challenging academic and occupational course work, to pursue postsecondary vocational education, at least through the associate degree level, and to enter the local work force with the skills needed to help area businesses compete in a global economy. The PACE

partners believe that Tech Prep provides an important, viable alternative for students who do not plan or prepare to enter a baccalaureate program of study immediately following graduation from high school.

C. The PACE Definition of Tech Prep

PACE Tech Prep is a sequenced, integrated program of academic and occupational studies preparing students to begin careers in mid-level technology. Entry and advancement in these positions typically require a high school diploma with occupational training up to and including an applied associate degree. Preparation includes rigorous academic study, enhanced and focused occupational course work, and structured guidance throughout high school and two years of postsecondary education. The Tech Prep program prepares students for careers in the following cluster areas: industrial/engineering technologies, health technologies, business technologies, and human/public service technologies.

D. The PACE Tech Prep Target Population

Tech Prep primarily targets high school students in the high school general education program. Historically, this program enrolled up to 50 percent of the total population and produced the greatest number of high school dropouts while providing inadequate preparation for either meaningful employment or postsecondary education. Because Tech Prep emphasizes strong academic as well as vocational study, high school students in the traditional vocational education programs are also considered Tech Prep students. While Tech Prep targets general and vocational education students, it also serves academically gifted students who are interested in mid-level technology careers. They may participate while also completing baccalaureate admission requirements and advanced academics.

E. The Goals of the PACE Tech Prep Program

The various school districts and the technical college in the PACE consortium shape the direction of their own Tech Prep programs within the general framework agreed upon by the PACE Coordinating Board and under the guidelines established by the South Carolina Department of Education and the South Carolina Board for Technical and Comprehensive Education. The general goals of Tech Prep programs are to:

- Increase the academic preparedness of high school students through rigorous, challenging course work of an applied nature, traditional college preparatory courses, or a combination of both;

- increase students' motivation to learn academic concepts by stressing contextual learning experiences that relate theory to real world applications;

- create a coordinated, sequenced series of academic and occupational courses, beginning in grade 9, which provide strong, purposeful preparation for employment and/or postsecondary occupational education;

- motivate more students to complete high school by making their course work relevant and participatory, and by helping them set goals which transition successfully into the workplace and/or postsecondary education;

- increase students' use and understanding of information technology in order to facilitate their success in school and in the workplace;

- increase students' awareness of mid-level technology careers, as well as motivating them to plan for and obtain the skills required to enter and advance in those fields;

- provide students with educational experiences that integrate academic and occupational study and that blend classroom and work-based learning;

- provide students with opportunities to earn advanced standing at the postsecondary level in order to save time and/or money in completing an associate degree;

- provide students who have made the transition into a postsecondary environment with integrated, relevant, and interesting learning experiences that blend classroom and workplace education and are supported by appropriate counseling services;

- expand opportunities for postsecondary Tech Prep students to earn advanced standing at four-year colleges in related baccalaureate majors;

- increase the numbers of graduates from two-year college occupational degree programs (i.e., programs with the primary goal of preparing graduates for the work force), who possess the technical, academic, interactive, and analytical skills required by area employers.

F. The PACE Model and Its Components

While recognizing that the individual needs, interests, and resources of each district will influence the elements of each Tech Prep program, model programs include:

1. A coordinated, sequenced Tech Prep curriculum of academic and occupational courses replacing the general education track starting in grade 9 and ending with students' successful entry into the work force, or their completion of a postsecondary certificate, diploma, or applied associate degree. This curriculum must:

- Provide multiple entry and exit points throughout the six years of the program;

- present Tech Prep as an option for all students without eliminating those who are interested in both Tech Prep and college prep;

- integrate academic and technical courses that include work experiences. This flexible curriculum should include academic and occupational courses integrated into a number of career clusters for optimum post-high school preparation (See Figure 3.1 and Figure 3.2, pages 7 and 8).

2. Upgraded courses which give general education and vocational education students greater academic skills, thus eliminating the need for reeducation at the postsecondary level.

3. New and/or enhanced applied academics courses which:

- Increase the relevance of academic concepts by using real world applications;
- show how math, English, and science concepts are used by technician level employees in local businesses, industries, and health/public service agencies;
- increase students' motivation for learning academic concepts and skills;
- build career understanding components into the academic program;
- increase students' interest in taking vocational/occupational courses available at their high school or career center.

4. An introductory course in the 9th grade, or a series of experiences and activities appropriately integrated into freshman-level courses, which help introduce students to the essential elements of Tech Prep. Topics typically include study and time management skills, career exploration and planning appropriate for all clusters, guidance in course selection, orientation to the school/district's occupational offerings, and learning activities designed to enhance students' self-esteem and expectations for success.

5. Tech Prep information for students and parents describing academic and occupational course options and explaining the kinds of postsecondary studies and careers for which Tech Prep prepares students.

6. Career exploration and counseling services that include proper advisement of Tech Prep students, including opportunities for Technical Advanced Placement (TAP), provide current and accurate career information, and expose students to information from the local business community (e.g., career options and educational requirements for entry-level positions). Guidance services include development of individualized career and educational plans for students, grades 6-14, in which each student chooses or revises his/her career goal and selects a career major (a core of academic courses and appropriate vocational electives).

7. Continuing in-service opportunities for faculty and staff development in areas related to the teaching and counseling of Tech Prep students.

8. Orientation activities for Tech Prep students and their parents.

9. Career awareness activities for middle and junior high school students emphasizing exposure to (and a general understanding of) mid-level technology careers. These activities provide students with a frame of reference for the Tech Prep curriculum option in high school.

10. Work-based learning that provides a planned program of paid or unpaid work experience through opportunities like internships, co-op, Youth Apprenticeship, and/or service learning.

11. Options for students to enter baccalaureate prep programs either as freshmen or as transfer students from occupational or arts and sciences associate degree prep programs.

One of the strengths of the PACE Tech Prep program is the communication between all participants, especially between the business community and the schools. Local business leaders have become involved in creating the curriculum at several of the high schools, while teachers and other staff members have conducted on-site visits to several employers in the area. This dialogue has provided both educators and employers with the opportunity to shape the program into a vehicle that benefits both the students and the employers.

The local business community also provides non-academic support to the schools through the use of job shadowing and job visits for students, lunchtime visits to high schools by local business leaders, and input into the kind of technical knowledge students should be receiving.

Students receive tangible rewards for achievement (i.e., gold and silver certificates of achievement, student of the month awards). The interactive nature of Tech Prep also creates more peer pressure to achieve, relieving teachers of much of the motivational burden often associated with general education.

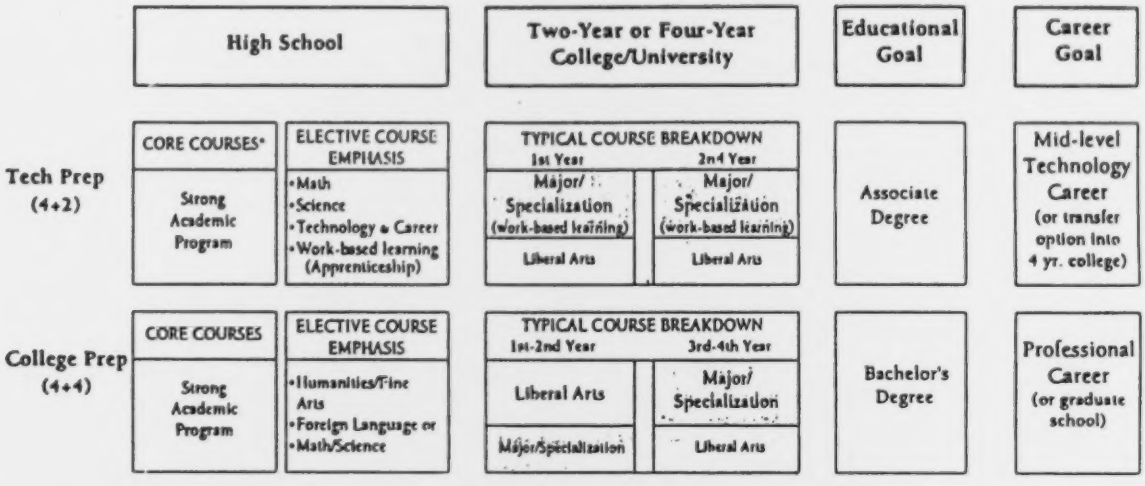
G. Decision to Choose the PACE Program for Study

The PACE program was selected by the U.S. Department of Education as a promising model for this study because it reflects all the characteristics of a successful Tech Prep program. The enterprise was begun through the Tri-County Community College in response to steeper demands for technically skilled workers in the local labor market and the inability of traditional, general education programs to provide high school students with the necessary academic and technical skills. The PACE initiative was conceived by Dr. Don Garrison, president of Tri-County Community College, to operate as an autonomous body in overseeing the implementation and development of Tech Prep in the tri-county area. Through a carefully designed program that relied on cooperation from both the high schools and the local business community, PACE became a catalyst for regional school curriculum reform and for integrating previously separated systems: secondary/post secondary, academic/vocational, and school/work. Because of the level of commitment displayed by participants of the PACE initiative and the length of time the program has been in existence, it has an excellent reputation among Tech Prep programs.

FIGURE 3.1

Two Right Ways To Help Your Child Plan & Prepare For The Future!

Tech Prep: 4 Years of High School + 2 Years of Community/Technical College + transfer option into four-year College/University
Traditional College Prep: 4 Years of High School + 4 Years of College/University



Both Tech Prep and College Prep emphasize a strong academic core...so what's the difference?

- Students' future plans and career goals are different
- Emphasis in elective courses is different, but all course offerings are available
- Tech Prep students have an advantage of multiple options after high school for combining meaningful work and higher education
- Tech Prep students in two-year colleges start their major/specialization courses immediately

* academic core courses can be college preparatory, applied, or a combination. Students in South Carolina who have taken applied courses can meet freshman admission requirements for public four-year colleges through the exemption clause; see your child's guidance counselor for more information.

(Source: PACE, "Tech Prep: The Other Right Choice!" brochure for parents. Pendleton, SC: Partnership for Academic and Career Education, 1994.)

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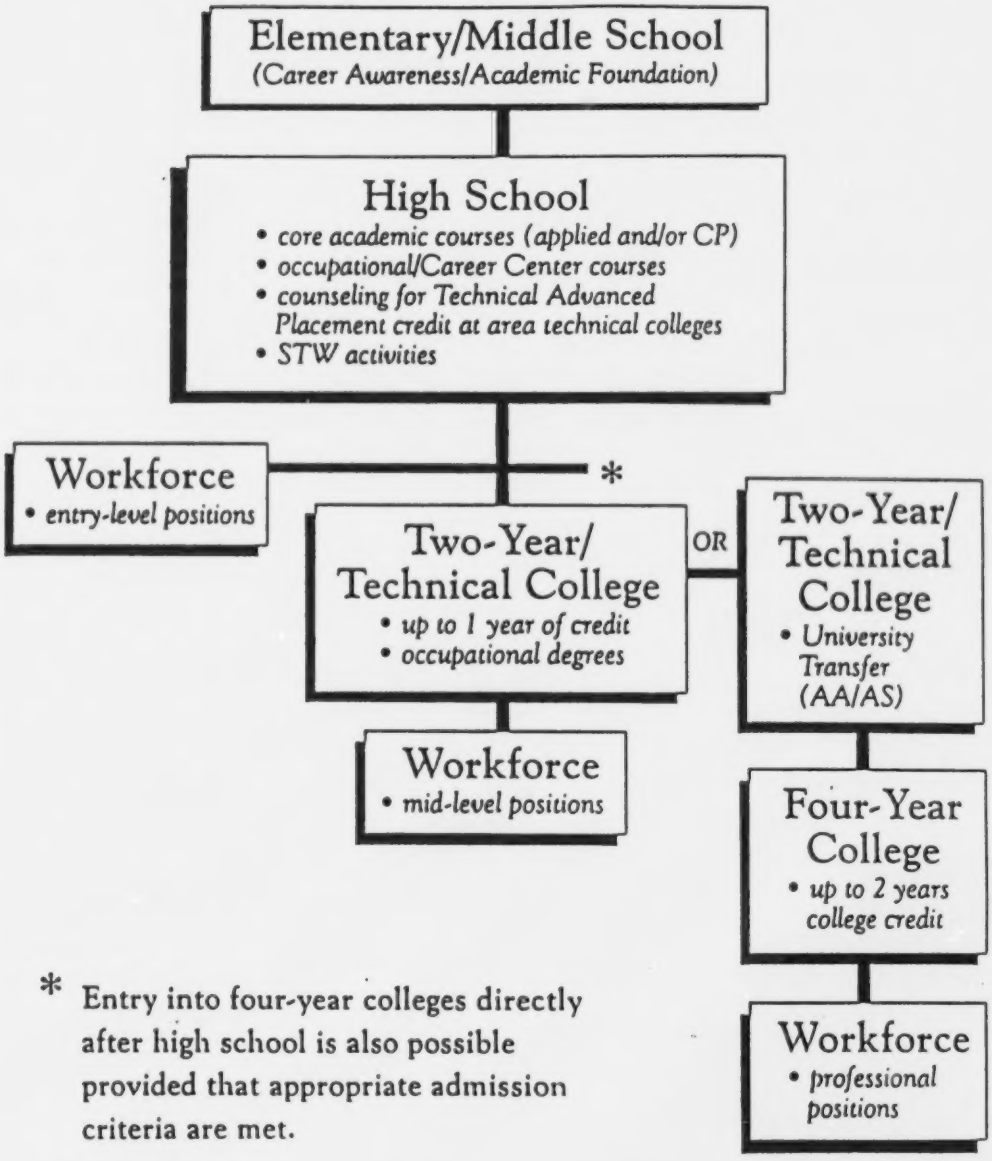
FIGURE 3.2

Tech Prep/STW Pathway Options



* Entry into four-year colleges directly after high school is also possible provided that appropriate admission criteria are met.

(Developed by: PACE, P.O. Box 587, Highway 76, Pendleton, SC 29670/803-646-8361, ext. 2107, December 1994.)

4. PURPOSE OF THE STUDY

This study attempts to answer three key questions about Tech Prep:

- Does Tech Prep provide high school students better access to postsecondary educational programs and/or more unobstructed paths to productive and rewarding opportunities in the modern workplace? In other words, does Tech Prep provide an effective alternative to the general education track for non-baccalaureate students who might seek a mid-level technology career?

- Does Tech Prep succeed in increasing the transition rates of these students from high school to community/technical college?

- Does Tech Prep succeed in increasing the transition rates of these students from high school to work and community/technical college to work? That is, do more of these students make a successful transition to a job in a mid-level technology career field that is both related to their educational training and has career development potential?

5. DATA COLLECTION METHODS

In order to determine the effectiveness of Tech Prep with respect to these questions, several data collection methods were used to provide both quantitative and qualitative measures of program activities and outcomes.

A. Site Visits

In the spring of 1993, a team from the Academy for Educational Development (AED) completed half-day, on-site visits to a representative sample of nine high schools, three career centers and the Tri-County Community College. At each site focus group interviews were held with administrators and counselors, applied academics teachers, college prep teachers, applied academics students and college prep students. The team also visited all the participating career centers and the technical college to interview staff and students.

Interviews with staff and students on each campus sought to determine how Tech Prep works and how it is regarded. Focus groups were typically comprised of five to nine people of similar backgrounds. Participants were led through a number of open-ended questions and related discussions in order to ascertain the activities, influences and benefits of the students' program experiences.

The team also conducted interviews with secondary and postsecondary school administrators, faculty and staff. These interviews included questions about the extent of staff training, the applied academics curriculum used, the number and type of classes offered, the nature and extent of local

employer involvement with the program, the type of counseling and information programs offered, and the relative emphasis on college versus technical career preparation.

The interviews also gathered information on issues such as:

- Coordination and articulation of secondary and postsecondary program offerings;
- admission requirements;
- course credit transfer between 2 and 4-year postsecondary institutions;
- the administrative structures at the local level;
- program monitoring and accountability;
- what technical assistance was provided at the state and local level;
- leadership provided by the state to local programs;
- compatibility of the local program with state policy goals;
- procedures to ensure ongoing communication between institutions;
- state and local school to work programming;
- initial barriers to program planning and implementation;
- professional development activities;
- program costs.

Each school was classified in terms of its relative economic and demographic advantages, general sophistication of its education program, and the degree to which it had developed a working Tech Prep program. The site visits provided a chance to judge the orientation of each school and its students. The interviews were chronicled separately by AED staff members and combined after discussion.

B. Faculty and Staff Survey

In the spring of 1993 a Faculty and Staff Survey was administered to 730 faculty and staff at nine consortium high schools and three secondary career centers (see Appendix II). The questionnaire asked faculty and staff members their opinions about changes in the school since the implementation of Tech Prep. This provided information for the evaluation's base-line year. The questionnaire sought to gain information about:

- The availability of resources;
- staff morale;
- effectiveness of leadership;
- the students participating in the program;

- changes in the school over time.

It also asked about the effectiveness of applied academics courses in achieving better class participation, and enthusiasm for school on the part of students not enrolled in all college prep and/or advanced academics. In addition, the questionnaire collected information on school environment, student behavior, and the level of conflict or incidents of violence on campus.

C. Student Exit Survey

All graduating seniors in the three counties served by the consortium (approximately 2500 students in 16 schools) were asked to complete a Student Exit Survey in the spring of 1993 (see Addendum II). The questionnaires were completed in the schools during class time. Students were asked to provide some information about themselves (hobbies, jobs, leadership activities, and self-confidence), their family, assessment of their educational experience, and to describe their plans for the next year, including college and/or work. This provided information for the evaluation's base-line year, 1993.

D. Student Follow-up Survey

A representative sample of 400 students who completed the initial baseline survey, in May 1993 as graduating seniors, were asked to complete a Student Follow-up Survey one year later (see Addendum II). This survey collected information on student postsecondary educational and training outcomes, and employment outcomes, including academic and occupational skills development, postsecondary enrollment and completion, job placement and advancement, and earnings. These students were evenly divided with 200 from schools with Tech Prep programs considered to be *experienced* or more highly developed, and 200 from schools with programs considered to be *beginning* or in an early stage of development (see Section 6. - Evaluation Design and Methods). Each student was sent a letter and a questionnaire to complete. Follow-up contacts were made by mail and telephone with those students who did not return the survey. These were conducted at two, four, and six-week intervals. Because many students had moved or were otherwise untraceable, the follow up survey received only a 50 percent response rate. There was no evidence that the responding students differed significantly from those who did not respond. Responding students had the same proportion male and female, intent to attend college, and parental education level as the baseline student population.

For students who were working, the survey collected information about their job (e.g., full-time/part-time, training provided, fringe benefits, future job prospects) and educational plans. For students primarily enrolled in postsecondary institutions, the survey determined the type of institution attended, field of study, number of courses taken, and educational and occupational expectations.

E. School, College and Community Data

Additional information was gathered through the high schools, the Tri-County Technical College and the tri-county service area about education levels, family income, and employment levels in the community. This background information described community characteristics that are

important in understanding the context for the educational and employment outcomes of students in the local high schools. They help in assessing the extent to which those student outcomes might be attributed to Tech Prep as opposed to other factors, such as differences in community wealth, socioeconomic status, economic opportunity, resources available to the school, and educational leadership of the administration.

6. EVALUATION ASSUMPTIONS

The evaluation design was based on three assumptions:

A. *There are no specific Tech Prep student characteristics.*

Tech Prep is a philosophy and approach to education that erases the traditional conceptual differences between, and separate programming for academic and nonacademic students. Tech Prep assumes that all students will end up in the labor market so all students can benefit from a Tech Prep high school environment which integrates academic and occupational education and prepares them for a career and lifelong learning. Because of this perspective, there was no comparison made between Tech Prep and non-Tech Prep students. However, because the purpose of Tech Prep programs is to better serve the population of students considered non-baccalaureate bound, and because high schools have traditionally done a better job preparing college bound students, it made sense to examine how well the Tech Prep program served those students who did not aspire to attend a 4-year college immediately after high school graduation.[1] Thus, the evaluation focused on a particular target population: those students who as seniors did not plan to attend a 4-year college the year after graduating.

B. *Tech Prep students often go on to a 2-year technical college education or get a meaningful job upon graduation from high school.*

These outcomes represent the best measures of the value of Tech Prep programs. The Tech Prep approach to education stresses interaction, group problem-solving, and comfort with the job environment, not changes in test scores. These attributes are not easily measured by traditional academic testing methods.

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[1]It is important to note that the PACE approach to Tech Prep does not support a permanent, binding distinction between college bound and non-college bound students. Program developers recognize that students may choose to pursue a baccalaureate degree one or more years after high school graduation. Tech Prep programs are designed to provide information to students on how to gain admission to baccalaureate programs when and if they choose to do so.

C. *Changes in student outcomes should become apparent within one year after high school graduation.*

The 400 sample students were asked to report their activities one year after leaving high school. Their responses were compared to their original Student Exit Survey. Making judgments about outcomes such a short time after graduation might be controversial because the effects of Tech Prep may not be evident until later in a student's career. However, two considerations argue against measuring outcomes over a longer period of time. First, there is a practical consideration of time and money available for conducting the study. Second, with the passage of more time, greater consideration must be given to intervening experiences such as further education, job experience and family formation. Each new event blurs the causal relationship between high school and outcomes.

7. EVALUATION DESIGN AND METHODOLOGY

A. Model Evaluation

This evaluation was designed to assess the significance and effectiveness of the PACE Tech Prep model and not the individual Tech Prep programs of member schools. The general model consisted of the key program elements defining Tech Prep, as determined by the four professional members of the PACE staff. This model description was approved by the consortium's Evaluation Committee. The research approach was to evaluate the model by comparing *experienced* Tech Prep programs (i.e., those that had more fully realized and developed the model) with *beginning* Tech Prep programs (i.e., those with less fully realized programs or less emphasis on Tech Prep). The difference between the two groups was the degree to which key elements of the Tech Prep model were in place at the schools and for how long. In theory, to the extent the *experienced* schools achieved more and better Tech Prep results, the significance and effectiveness of the model can be affirmed.

This PACE Tech Prep model evaluation looked primarily at the secondary level activities managed by the Consortium. Emphasis was placed on the high school experience since that is the key component of Tech Prep that defines the uniqueness of the approach.

In short, the method of analysis used to evaluate the PACE model was to compare results between the *experienced* and the *beginning* high school programs. This non-experimental, comparison group design was adopted because the circumstances of the schools did not allow for Tech Prep program groups and non-program control groups (as mentioned earlier, all 16 schools in the PACE consortium had some Tech Prep program elements in place at the start of this evaluation), or random assignment of the study sample. The method of sample selection was based on the degree to which each school demonstrated Tech Prep development.

Out of 16 high schools and four career centers involved with PACE, three *experienced* and three *beginning* Tech Prep schools were selected for comparison as groups. The student, staff, school and community related data from the three schools in each group were combined to form a composite profile of the *experienced* and the *beginning* Tech Prep group.

To select the sample schools and sort them into one group of three *experienced* programs and another group of three *beginning* programs, an assessment instrument was designed, based on the key elements of the Tech Prep model. The assessment instrument was completed for each of the 16 schools by PACE staff who were familiar with the level of program implementation throughout the consortium. This approach was intended to provide more objectivity than might have occurred by having the schools rate themselves.

The assessment instrument consisted of 41 selection criteria, representing the program elements that make up the PACE Tech Prep model, grouped under five categories:[2]

- Curriculum Development and Integration
- Leadership and School Environment
- Counseling/Career Planning
- Linking School-Based and Work-Based Learning
- External Collaboration

B. Key Design Features

The evaluation design has three key features:

- *Use of a comparison group.* The design provides for comparison between a group of *experienced* high schools judged to have more attributes or components of a successful Tech Prep program and another, *beginning* group that has fewer.

- *Use of outcome measures.* The evaluation measures the outcomes of students who participated in either *experienced* or *beginning* Tech Prep programs.

- *Use of controls.* Measured and recorded differences in outcomes between the two groups can be attributed to Tech Prep only after controlling for the possible influences of economic, educational and demographic differences among the high schools. These controls introduce a degree of rigor in that the effects of Tech Prep must stand out in comparison with more traditional high school programs. In addition, they should help to identify observable outcomes that distinguish Tech Prep from non-Tech Prep graduates one year after they leave high school.

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[2] The assessment instruments, one for high schools and the other for career centers, are included in Appendix II: Career Center Assessment Inventory for Tech Prep Implementation and High School Assessment Inventory for Tech Prep Implementation.

C. Tech Prep Claims

Proponents of Tech Prep programs make a set of claims that provide the basis for these evaluation propositions:

Claim 1: Students will be more motivated in Tech Prep schools.

Proponents of Tech Prep education claim that students who have not been motivated or involved with general education programs will be more motivated through education that reflects real-world applications. This educational approach uses group problem solving instead of teacher lecture and individual work as the primary learning path. The expectation is that a well-designed Tech Prep program will have better student attendance, and improved graduation rates. Also, students will be more satisfied with their educational experience compared to those attending high schools with less emphasis on Tech Prep.

Claim 2: Staff in Tech Prep schools will see better results.

The assumption is that even though Tech Prep's applied academics teaching methods demand more of teachers, the results more than off-set the increased level of efforts. Good Tech Prep programs need to provide the time and resources so that faculty can grasp the principles involved and develop their own course outlines and become comfortable with the approach. If Tech Prep is successful in motivating students, the improvement should be apparent to the faculty.

Claim 3: Students will be more likely to attend a 2-year college.

Employers are less willing to pay for high school graduates with no specific skills or lacking the required literacy for entry-level jobs. New employees will increasingly be required to have technical skills along with an ability to communicate effectively with others, solve complex job problems and learn new skills on their own. Tech Prep provides a smoother progression from high school, to postsecondary training, and to a good job. A key measure of the effectiveness of this new educational approach is the number and percentage of additional students continuing their education after high school.

Claim 4: Students who go directly into the job market will get better jobs.

The increased emphasis on job skills, improved knowledge of the local employment market, and support in looking for a job should result in better employment for graduates of Tech Prep programs who choose not to continue their education. Further, because employers have more input in the curriculum and skills expected of graduates, employers should be more confident about hiring graduates of Tech Prep programs.

8. OBSTACLES AND LIMITATIONS TO SIMPLE CONCLUSIONS

There are a number of limitations and obstacles to reaching simple conclusions. It was not possible to introduce all of the conditions necessary to do a controlled experiment. Conclusions made on partially-controlled observations run the risk of being incorrect or incomplete. This risk is especially high in education research because high schools are part of the local culture and are shaped by political and economic conditions that may affect the ability of a school to provide a consistent educational program. For example, program activities and outcomes are influenced by local job opportunities and availability of postsecondary education.

A. Link Between Experience and Outcome

It is not possible to link a specific outcome to a particular component of the Tech Prep model. Successful education is the sum of a number of activities, approaches, attitudes, and circumstances over time. The research approach of this evaluation was more global and asked whether an entire package of activities and circumstances tended to yield certain results. Specifically, did students who attended *experienced* Tech Prep programs, compared to students who attended a *beginning* program, tend to have a stronger sense of the opportunities that are available to them after high school?

B. Must Interpret Results as a Case Study

Comparing events in three high schools to three other high schools does not provide a statistically diverse sample. Local high school, community, or student differences may influence outcomes. In part, these have been taken into consideration by controlling for the college plans of seniors. Those seniors who anticipated that they would not be going to a 4-year college had similar family and economic characteristics across schools, whether *experienced* or *beginning* programs.

These results should therefore be interpreted as a case study and not as a statistical study. The information collected from each group of three schools has been synthesized to produce a descriptive base. This approach reduces, but does not eliminate, the possibility that the outcomes might be attributed to characteristics of the high school or community instead of the Tech Prep program.

C. Unrealistic Claims for Tech Prep

The program claims are not always realistic. There were two cases in which the claims made for Tech Prep, in theory, may be unrealistic. One claim is that Tech Prep programs increase formal student contact with employers and employment opportunities. *Experienced* Tech Prep programs did increase contact between employers and students, but at the time of this study there were few apprenticeship or other program sponsored long-term contacts between students and employers. It may be that day visits or conversations with employers in the community do not make a deep impression on high school students. Many students work at jobs they find on their own. This was the most common work experience for this group of students. However, new consortium initiatives, including expansion of youth apprenticeship and other school-to-work programs, are closing the gap between the idealized model and actual, developing programs.

Another questionable claim is the importance and availability of high tech jobs. A review of employment opportunities suggests that most jobs available in the region do not demand high levels of technical training. Those jobs that do are not generally available to recent high school graduates. Entry level may be too early to determine whether well trained Tech Prep students experience more promotions and advance into better technical jobs faster than non-Tech Prep graduates.

D. Data Collection Limitations

The mixed data collection efforts used in the study attempted to build on existing information sources in the community and educational system. At the time of this study, South Carolina did not have a student unit record system in place, so it was not possible to track students longitudinally through time and link their educational experience in different institutional settings. This limited the tracking of students from the high schools into postsecondary education. For this reason, it was not possible to ascertain the number and percentage of additional students who continued their education after high school because of their Tech Prep experience.

Availability of school and college data was also limited. The evaluation could not fully rely on school and college records for Tech Prep-relevant information characterizing students, programs and support services and the extent of their development, enrollment and participation patterns, retention/achievement/graduation rates, and postsecondary and job placement rates. The evaluation's information base, for the most part, was limited to the data collected from the Student Exit and Student Follow-Up Surveys and the Faculty and Staff Survey. Outcome data were limited to those students who completed the Student Follow-up Survey. Experience shows that students' statements about their own educational experience are not as reliable as institutional records, but they must suffice for this evaluation.

This lack of institutional records limited the evaluation of the postsecondary experience of Tech Prep students. Tech Prep students were defined by their high school experience. Students in the community college who had been enrolled in the consortium's high school Tech Prep programs could not be identified without more extensive research.

E. Plans for Expanded Data Collection System in the Future

While ongoing program evaluation remains a priority of the consortium's Coordinating Board, achieving this goal has presented numerous challenges for the PACE staff. For example, until recently there were few state-imposed requirements or standards for collecting and submitting Tech Prep/School-to-Work related data which would enable reasonable access from a regional perspective. Because the PACE office has no authority to require schools to submit data on a consortium basis, collecting essential information in any systematic way has not been possible. In addition, the site-based autonomy of PACE schools resulted in considerable variation in whether and/or how Tech Prep students were identified among schools and districts.

Recent improvements at the state and consortium levels have, however, provided some hope that a systematic data collection and evaluation process can be implemented. Through new requirements imposed by the South Carolina State Department of Education, the legislature, schools

and the technical college must routinely report specific data using consistent definitions. The results will then be made available to each consortium throughout the state. Tri-County Technical College administrators also recently approved the implementation of a new tracking system which will help provide further delineation and tracking of Tech Prep students and make linking the results to the College's alumni information database more feasible.

In April 1995, the PACE Coordinating Board approved the formation of a newly constituted Evaluation Committee which will recommend how best to establish a consortium-based data collection system for the purpose of generating reports targeted especially to the interest and needs of local schools and employers. This is an important development because it signifies the desire of the technical college and school districts to implement this type of system without a state mandate to do so. The ultimate result will be the voluntary submission of specific data elements from the school districts and the technical college to the consortium office for analysis and reporting.

The evaluation system under development will identify Tech Prep students and track and report their progress on a comprehensive set of performance measures. Expected elements of the database include:

- Academic and occupational courses taken or completed;
- grades attained;
- program enrollment by course cluster or occupational specialty;
- career counseling and related support services received;
- diploma/certificate/degree earned;
- work-based learning experience;
- postsecondary grades and credentials earned;
- job placement in an occupation related to the course of study;
- wage/salary/benefits data;
- employer satisfaction information.

9. PROJECT RESULTS

The results from the three surveys developed and administered in this project to evaluate the significance and effectiveness of the PACE Tech Prep model are summarized in the following section. The first set of results are for 1993 high school seniors. These are followed by the responses of a sample of the students one year later in 1994. The third set of results reviews the responses of high school and career center faculty and staff.

A. Student Exit Survey Results

1. *Student and family characteristics*

The seniors from the *experienced* group differed from those in the *beginning* group in several ways. The most striking difference was the parents' level of education. Mothers and fathers of students in the *experienced* group were less likely to be college graduates than those in the *beginning* group. Eleven percent of the mothers in the *experienced* group had a baccalaureate degree compared to nearly one-quarter of those in the *beginning* group. Fathers educational achievement showed a similar pattern. Seventeen percent of the fathers in the *experienced* group had a baccalaureate degree compared to thirty percent of the fathers in the *beginning* group.

This difference in parents' education disappeared when the comparison was limited to those students who did not aspire to a 4-year college.

Table 1 *(All high school seniors, May 1993)* **Student and Family Characteristics**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
	Years	**Years**
Age	17.8	17.6
	%	**%**
Male	50.6	47.4
Non-minority	84.4	82.3
U.S. citizen	98.2	96.4
Speak English at home	98.5	96.8
Parents married	64.1	68.3
Mother college graduate	10.8	24.0
Father college graduate	16.5	30.4
Live with both parents	59.8	63.9
Two or more siblings	31.0	32.3
Attended another high school	13.2	14.3

2. *Student self ratings*

Students were asked to rate themselves Above Average, About Average or Below Average on several characteristics: academic talent, mechanical talent, drive to achieve, self-confidence, ability to organize time, and social maturity. Twenty-nine percent of the students in the *experienced* group rated themselves above average academically compared to 34 percent in the *beginning* group. The students in the *beginning* group also had a greater drive to achieve compared to the *experienced* group, 43 percent to 38 percent indicating they were above average on this characteristic. Yet when students were asked to rate their self-confidence, 44 percent of the students in the *experienced* group rated themselves above average compared to 39 percent of those in the *beginning* group. There were no appreciable differences between the two groups on the remaining three characteristics.

Table 2 *(All high school seniors, May 1993)* **Student Self Ratings**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Above Average:	**%**	**%**
Academically	28.8	34.3
Mechanically	29.8	28.6
Drive to achieve	37.7	43.3
Self confidence	43.9	38.7
Organization of time	32.5	33.1
Social maturity	57.1	57.9

3. *High school classes*

The students in the two groups had different educational experiences in high school. Forty-seven percent of the seniors in the *experienced* group were more likely to have taken applied academics courses compared to 41 percent of those in the *beginning* group. The biggest difference was that 46 percent of students in *experienced* high schools took occupational/vocational classes compared with 24 percent of the seniors in the *beginning* group.

Seniors in the *experienced* group were generally more positive about their classes than those in the *beginning* institutions. They rated both college prep and applied academics classes more highly than the students in the *beginning* group (i.e., more structured, more challenging, and more relevant). Students in the *experienced* group rated their college prep classes as more relevant and less likely to involve lecture and memorization than the students in the *beginning* group.

Students in the *experienced* group who took vocational/occupational classes found them less challenging but more relevant than those in the *beginning* group. There was no difference between

the two groups in their rating of how well the occupational classes helped develop problem solving and team work skills.

Table 3 *(All high school seniors, May 1993)* **High School Classes**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Type of Classes Taken:	**%**	**%**
Advanced Honors	30.1	28.2
College Prep	82.2	78.0
Applied Academics	46.9	40.5
Basic or Remedial	20.6	19.4
Occupational/Vocational	45.7	23.6
Fine Arts or Other Special Electives	28.2	27.2
College Prep Classes Were Usually:		
Challenging	44.4	41.1
Relevant	44.8	39.8
Lecture and memorization	34.7	46.8
Structured	29.5	26.1
Applied Academic Classes Were Usually:		
Challenging	40.5	30.3
Relevant	41.2	33.8
Lecture and memorization	20.3	18.4
Structured	66.7	56.7
Vocational/Occupational Classes Were Usually:		
Challenging	64.4	75.2
Relevant	58.4	13.7
Developed problem solving/team work skills	67.1	68.4

4. *Support from counselors and teachers*

Overall, students in the *experienced* group found counselors and teachers at the school more helpful and supportive than those in the *beginning* group. Students in the *experienced* group found people at the school more helpful in understanding and selecting courses than students reported in the *beginning* group.

Table 4 *(All high school seniors, May 1993)* **Support From Counselors and Teachers**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Number of Times Help was Received:	**%**	**%**
0-2	12.3	16.7
3-6	42.0	38.7
7-10	17.5	19.8
10+	28.2	22.2
Who Helped Most in Selecting & Understanding Courses:		
Teacher	35.0	21.6
Counselor	31.0	21.0
People at High School:		
Definitely helpful and supportive	34.7	20.2

5. *Work experience*

High school seniors in both groups worked eight months during their senior year averaging 23 hours a week at $5 per hour. Only 10 percent in either group reported working in a formal co-op, internship or apprenticeship program sponsored by the high school.

Table 5 *(All high school seniors, May 1993)* **Work Experience**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Months worked last year	8.3	7.9
Average amount earned	$3,131	$2,966
Average paid per hour	$4.97	$5.07
Hours worked per week	23	23
Had a co-op, internship, apprenticeship	10.4 %	10.1 %

6. *High school experience*

Students in the *experienced* group were more likely to take TAP courses for advanced placement in the technical college than those in the *beginning* group. They were also more likely to have participated in visits with businesses that were arranged by the high school. Seniors in *experienced* high schools were nearly twice as likely to have visited a business as part of their high school program than those in *beginning* schools.

Table 6 *(All high school seniors, May 1993)* High School Experience	Experienced Tech Prep Program	Beginning Tech Prep Program
	%	%
Took classes which qualified for TAP	27.9	16.1
Took remedial or development classes	14.4	13.1
High school arranged visits with businesses	53.1	27.2

7. *Attendance behavior*

Students in the *experienced* group were more likely to have dropped a class because they were afraid of failing than students in the *beginning* group. They were also less likely to have skipped a class.

Table 7 *(All high school seniors, May 1993)* Attendance Behavior	Experienced Tech Prep Program	Beginning Tech Prep Program
Respondents:	%	%
Considered dropping out of high school	15.6	12.7
Dropped a class because afraid of failing	23.3	14.1
Skipped School:		
Never	42.9	33.7
Couple times a year	38.3	38.7
Six times a year	5.5	10.9
Once a month	6.7	8.1
Every week	4.0	5.0

8. *Confidence about the future*

Students in the *experienced* group were more optimistic about their chances of succeeding after high school and more likely to feel prepared to continue their education at a 2-year college than

those in the *beginning* group. There was little difference between the two groups in their judgment of how they might succeed in a 4-year college.[3]

Seniors in the *experienced* group were more likely than those in the *beginning* group to feel well prepared to take a job paying more than minimum wage, and to expect to work full-time during the summer after their graduation.

Table 8 *(All high school seniors, May 1993)* **Confidence About the Future**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
HS Prepared Respondent to Continue at:	**%**	**%**
Two-year College:		
Very well	44.5	34.7
Adequately	46.6	50.8
Poorly	2.8	4.2
Four-year College:		
Very well	27.9	26.0
Adequately	53.1	55.4
Poorly	12.3	13.1
Employment Paying More than Minimum Wage:		
Very well	36.2	28.0
Adequately	44.2	28.8
Poorly	12.9	13.1
Plans to Spend the Summer:		
Vacation	52.1	56.3
Work full-time	54.3	39.5
Summer school	1.2	0.4
Work part-time	35.9	42.5
Other	10.7	16.1

[3]This finding contradicts the presupposition that *experience* seniors would have higher confidence levels than their counterparts in *beginning* schools since the educational level of their parents is lower.

9. *Postsecondary school plans*

Postsecondary school plans of the two groups differed. Those in the *experienced* group were less likely to have applied to a 4-year college and less likely to plan to attend a 4-year college full-time than those in the *beginning* group. The seniors in the *experienced* group were more likely to seek an associate degree and less likely to seek a baccalaureate degree compared to those in the *beginning* group.

The seniors in the *experienced* group were more likely to work while in college than those in the *beginning* group. Fewer of the students in the *experienced* group expected financial help from their parents while they went to college. They were also less likely to be certain that they would graduate than those in the *beginning* group.

Table 9 *(All high school seniors, May 1993)* **Postsecondary School Plans**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Of Those Who Plan to go to College:	**%**	**%**
Have applied	70.1	78.0
Plan to attend full-time	70.5	80.0
Do not plan to work while in school	14.9	27.6
Most Important Reason for Going to College:		
Believe I'll get a good job	68.6	62.1
Parents want me to go	13.0	9.8
Lots of my friends are going	5.0	3.4
Worried about finding a job	19.5	21.3
Interested in learning	28.7	25.7
How Respondents Plan to Pay:		
Parents	48.7	55.3
Will work	25.7	17.1
Hope to get student aid	44.1	39.9
Other	6.5	7.6

Table 9 (Continued page 2) *(All high school seniors, May 1993)* Postsecondary School Plans	Experienced Tech Prep Program	Beginning Tech Prep Program
Type of Degree Planned:	%	%
Certificate	11.5	8.1
Associate	36.0	28.9
Bachelors	53.6	62.1
When in College:		
Plan to transfer to another college	31.0	26.4
Will need tutoring or special help	26.4	30.1
Chances of Succeeding in College:		
Doubt I'll graduate	1.5	1.2
Work hard to graduate	28.0	25.7
Confident I'll graduate	33.3	27.1
Certain I'll graduate	33.7	39.6

10. *Work plans*

Those students who planned to work after graduation instead of going on to postsecondary study were asked about their plans. Sixty-nine percent of the seniors in both groups were in jobs or seeking jobs where they knew someone. Well over half the seniors from both groups who planned to work were in jobs in which they already had experience. One surprising finding, seemingly inconsistent with Tech Prep theory, was that students in the *experienced* group were less likely to report that they had learned something about the job in high school than those in the *beginning* group. Yet they did report that they received more help in developing job search skills than those in the *beginning* group. In both groups, parents or relatives were more important help in finding a job than anyone at the school.

When asked about what was important in a job, students in the *experienced* group were more likely to rate "chance for Promotion" lower than those in the *beginning* group. The *experienced* group students rated "getting to do interesting work" higher and "working with good people" lower than those in the *beginning* group.

Table 10 *(All high school seniors, May 1993)* Work Plans	Experienced Tech Prep Program	Beginning Tech Prep Program
Of Those Who Do Not Plan to Attend College:	%	%
Looking for or have a full-time job	67.6	55.3
Of Those Who Were Not Going to Work or College:		
Getting married	9.3	7.1
Work with family	5.3	8.7
Military	1.3	2.4
Community service	57.3	53.5
Other	20.0	18.1

The original purpose of Tech Prep was to improve education and training for those high school students who did not aspire to attend 4-year college. For this reason, comparisons were limited to those students who indicated that they did not intend to continue their education at a 4-year college. This changed some of the conclusions. First, the percent of mothers and fathers with at least a baccalaureate was only slightly higher in the *beginning* group compared to the *experienced* group (7 percent to 11.5 percent). There was no significant difference in the percent of fathers with a baccalaureate degree (12 percent to 11 percent).[4]

Non-baccalaureate students had lower estimates of their academic ability than those who planned to go to a 4-year college, but there was no difference between the *beginning* and *experienced* Tech Prep group. The *experienced* Tech Prep group continued to have more students with an above average self-confidence than those in the *beginning* group.

There were some differences in the high school experience of the two groups. The *experienced* group was more likely to take college prep classes, applied academics classes, fine arts or other specialized electives, and occupational vocational classes than the students in the *beginning* group.

The *experienced* group members were less likely to report that their college prep classes were boring than those in the *beginning* group. The classes were also less likely to be mostly lecture and memorization in the *experienced* group compared to the *beginning* group. *Experienced* group students were more likely to take courses that qualified for TAP.

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[4]Tables for students not planning to attend a 4-year college can be found in Appendix I.

The *experienced* group found the applied academics more challenging, less boring, more relevant and more structured than reported by students in the *beginning* group. There were no differences between the two groups in their estimation of the occupational courses.

The *experienced* group was more likely to meet with a counselor and reported more help from teachers and counselors in understanding careers and selecting courses than the *beginning* group. They reported that school staff members were more supportive and interested than those in the *beginning* group.

Work experience for both groups came mainly through employment that they found for themselves. Roughly 70 percent of the students worked, and those who worked spent more than 20 hours on the job. Only 10 percent of the students participated in school sponsored co-ops, internships or apprenticeships.

The students in *experienced* Tech Prep programs were more likely to:

- Have visited businesses during the school year than those in *beginning* Tech Prep programs;
- feel prepared for continuing education at a 2-year school or entering employment at more than the minimum wage;
- be working full-time during the summer and plan to work and go to school in the fall;
- plan to attend school part-time and work full-time;
- rate getting a better job as the reason for continuing their education;
- be looking for a full-time job.

The students in the *experienced* Tech Prep programs were also less likely to have skipped a class, and less certain that they will graduate from a postsecondary school.

B. Student Follow-up Survey Results

1. *Overall results*

Data from the Student Follow-Up Survey were analyzed to determine the difference between students from *experienced* schools and *beginning* schools one year after high school graduation. Overall, 60 percent of the graduates from *experienced* schools were enrolled in either a 2-year or a 4-year college compared to 71 percent of those from a *beginning* Tech Prep high school program. One quarter of the graduates from *experienced* Tech Prep programs were working either full or part-time compared to 17 percent of the graduates of *beginning* schools. Roughly 12 percent of the graduates from either group were unemployed or doing something other than going to school or working. Few students were married, but if they were married, graduates of the *experienced* Tech Prep programs

were more likely to have children. Hardly anyone chose to join the military directly out of high school.

Compared to the *beginning* group, students from the *experienced* group were more likely to be living with their parents and less likely to be living on a college campus.

2. *High school experience of graduates*

When students one year out of high school reflected back on their high school experience, there were differences between the two groups. Those in the *experienced* Tech Prep programs gave more value to what they had learned in high school compared to those graduating from *beginning* programs. They also wished they had paid more attention in high school. Twenty-nine percent of the graduates from *experienced* programs felt that their high school experience had prepared them to get and succeed in a good job compared to 20 percent of those from a program.

Table G1 *(Sample of same high school seniors one year later, May 1994)* High School Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
High School Experience Prepared Respondent for College:	%	%
Very well	23.6	23.9
In most areas	50.9	50.0
Not much	16.4	17.4
Very poorly	9.1	8.7
Future Looks:		
Very good	55.0	42.4
Pretty good	31.3	40.9
I'm worried	5.0	6.1
Have no idea what might happen	8.8	10.6
High School Courses Very Helpful:		
Agree	38.0	34.9
Agree somewhat	49.4	59.1
Disagree	12.7	6.1
Feels Good About Choices Made:		
Yes	81.3	80.3
No	5.0	6.1
Not sure	13.8	13.6
Learned More in High School Than Since:		
Agree	17.5	10.8
Agree somewhat	38.8	38.5
Disagree slightly	30.0	33.9
Disagree	13.8	16.9
Should Have Paid More Attention in High School:		
Agree	28.8	30.3
Agree somewhat	43.8	36.4
Disagree slightly	15.0	13.6
Disagree	12.5	19.7

Table G1 (Continued page 2) *(Sample of same high school seniors one year later, May 1994)* High School Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
High School Teachers Taught Most of the Important Things:	%	%
Agree	18.8	15.2
Agree somewhat	42.5	53.0
Disagree slightly	25.0	13.6
Disagree	13.8	18.2
Can Think of Three Teachers Who Should be Thanked:		
Agree	70.0	62.1
Agree somewhat	18.8	24.2
Disagree slightly	5.0	7.6
Disagree	6.2	6.1
Can Think of at Least One HS Counselor Who Should be Thanked:	%	%
Agree	30.0	33.3
Agree somewhat	25.0	16.7
Disagree slightly	22.5	16.7
Disagree	22.5	33.3
High School Teachers Cared About Respondent:		
Agree	43.8	39.4
Agree somewhat	41.2	37.9
Disagree slightly	12.5	12.1
Disagree	2.5	9.1
High School Prepared Respondent to Get & Succeed at Good Job:		
Agree	28.6	19.7
Agree somewhat	41.6	50.0
Disagree slightly	15.6	13.6
Disagree	14.3	16.7

3. *Work experience of graduates*

Interpreting the results regarding work is complicated by the fact that it is not possible to distinguish between students who are starting a career and those who are casual workers trying to make money to support other interests. The fact that graduates of *experienced* Tech Prep programs earned more per week than those who graduated from a *beginning* program suggests that more students in the latter group were working part-time. Seventy-three percent of the workers who graduated from *experienced* Tech Prep programs reported working 31 hours or more a week compared to 55 percent of those who graduated from a *beginning* program. Also the fact that graduates of the *beginning* programs applied for fewer jobs before taking the one where they were working supports this proposition.

Graduates of *experienced* Tech Prep programs were more likely to be a permanent employee and get special training after they started their job compared to graduates of *beginning* Tech Prep programs.

Contrary to expectations, graduates of *experienced* programs were less likely than graduates of *beginning* programs to say that their job was related to the vocational education they had in high school. They were also less likely to report that they needed a special license or certificate as a condition of employment. They were less likely to have health insurance than workers who graduated from *beginning* programs.

Surprisingly, 97 percent of graduates of *experienced* Tech Prep programs said that no one at the school helped them find the job. Ninety percent of the graduates of *beginning* Tech Prep institutions had the same experience.

Another unexpected result was the fact that graduates of *experienced* Tech Prep programs were less likely to have anticipated the job they got. Only 30 percent of the graduates of the *experienced* Tech Prep programs expected to have the type of job they ended up with , compared to 35 percent of the graduates of *beginning* Tech Prep programs. One-third of the graduates of the *experienced* Tech Prep programs had not even considered what type of job they might get compared to 20 percent of those from *beginning* programs. Even with this lack of planning, 60 percent of the *experienced* Tech Prep graduates felt adequately employed compared to 52 percent of those who graduated from a *beginning* program.

Table G2 *(Sample of same high school seniors one year later, May 1994)* Work Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Main Activity of Respondents:	%	%
Attending school	44.6	47.4
Working	25.0	17.1
Working and going to school	17.4	23.7
Unemployed (looking for job)	5.4	6.6
Unemployed (not looking for job)	1.1	0.0
Other	6.5	5.3
Plans Have Changed Since High School:		
Yes	27.2	27.3
No	72.8	72.7
Married:		
Yes	6.2	7.7
No	92.6	92.3
Have Children:		
Yes	6.2	1.5
No	93.8	98.5
Where Respondents Live: *		
With parents	69.1	47.0
On campus	19.8	40.9
On their own	7.4	6.1
Other	3.7	6.1
Military Service:		
No	97.5	100.0
Yes (reserve)	1.2	0.0
Yes (active)	1.2	0.0

* Significant at the .05 confidence level.

Table G2 (Continued page 2) *(Sample of same high school seniors one year later, May 1994)* Work Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Average Weekly Earnings: *	%	%
Less than $100	5.4	17.1
$100-199	46.0	57.1
$200-299	40.5	22.9
$300-399	5.4	2.9
$400-499	2.7	0.0
$500 or more	0.0	0.0
Applied for How Many Jobs Before Hired: *		
0	27.0	45.2
1 or 2	43.2	29.0
3 to 5	18.9	19.4
6 to 10	8.1	3.2
Over 10	2.7	3.2
Job Is Related to High School Vocational Training:		
Yes	16.7	22.6
No	83.3	77.4
Job Was Easy to Find: *		
Yes	73.0	87.1
No	27.0	12.9
Had to Take a Test to Work at Current Job:		
Yes	29.7	32.3
No	70.3	67.7
Need a Special License or Certificate:		
Yes	8.1	12.9
No	91.9	87.1
Job Provides Health Insurance:		
Yes	36.1	45.2
No	63.9	54.8
* Significant at the .05 confidence level.		

Table G2 (Continued page 3) *(Sample of same high school seniors one year later, May 1994)* Work Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Received Special Training on the Job: *	%	%
Yes	54.1	38.7
No	45.9	58.1
Job Status: *		
Regular	78.4	73.3
Temporary/Probationary	18.9	13.3
Other	2.7	13.3
High School Education Prepared Respondent for Current Job:		
Yes, very much	8.1	16.1
Quite a bit	16.2	19.4
Somewhat	51.4	41.9
No, not at all	24.3	22.6
Someone at High School Helped Respondent Find This Job: *		
Yes, a teacher	0.0	0.0
Yes, a counselor	2.7	0.0
Yes, a job placement coordinator	0.0	3.2
Yes, other	0.0	6.5
No one at high school helped me	97.3	90.3
Chances of Getting a Promotion Soon:		
Very good	27.0	31.0
Fairly good	51.4	44.8
Not so good	21.6	24.1

* Significant at the .05 confidence level.

Table G2 (Continued page 4) *(Sample of same high school seniors one year later, May 1994)* Work Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Next Year, Respondent Will:	%	%
Work for the same employer	59.5	64.5
Work for someone else	10.8	9.7
Not work at all	0.0	3.2
Other	29.7	22.6
Expected to Have This Type of Job After High School:		
Yes	29.7	35.5
No	37.8	45.2
I didn't think about it	32.4	19.4
Current Employment is a Good Job for Respondent:		
Yes	59.5	51.6
Somewhat	35.1	41.9
No	5.4	6.5
Knew Someone Who Worked at Current Job Before Hired:		
Yes	70.3	71.0
No	29.7	29.0
Employer Offers Tuition Assistance:		
Yes, but have not requested assistance	16.2	16.1
Yes, and have requested assistance	5.4	0.0
Yes, and I plan to apply for assistance	8.1	3.2
No	46.0	51.6
I do not know	24.3	29.0
Hours Worked Per Week: *	Hours	Hours
Less than 5	0.0	0.0
5 to 10	0.0	12.9
11 to 20	5.4	3.2
21 to 30	21.6	29.0
31 to 40	46.0	35.5
More than 40	27.0	19.4

* Significant at the .05 confidence level.

4. *College experience of graduates*

The *experienced* group graduates who were enrolled in a school were more likely to attend a 2-year postsecondary institution rather than a 4-year college. Nearly half, 46 percent, of the *experienced* graduates went to a 2-year technical college compared to one-third of those who graduated from a *beginning* school. The outcome was reversed for attendance at a 4-year college, 54 percent (*experienced*) to 60 percent (*beginning*). Thirteen percent of the *experienced* Tech Prep graduates attended school part-time compared to 8 percent of those from *beginning* programs.

Graduates of *experienced* Tech Prep programs reported a higher grade point average than those from *beginning* programs. Not surprisingly, they were also more likely to rate their chances of getting a degree as excellent compared to graduates of *beginning* Tech Prep programs. This may reflect the fact that they were also more likely to be seeking a 2-year degree or certificate.

Given that the graduates of *experienced* Tech Prep schools were more likely to expect to work full-time than those from *beginning* schools, it is surprising that 59 percent of them worked compared to 67 percent of the *beginning* graduates. Graduates of *experienced* programs were also less likely to report participating in an apprenticeship or co-op program than graduates of *beginning* programs.

Contrary to expectations, graduates of *experienced* Tech Prep programs were less likely to enroll in technical, health, or business courses of study than those who graduated from *beginning* programs. The graduates of *experienced* Tech Prep programs were also more likely to have changed their education plans than those who graduated from *beginning* programs. This was unexpected in light of the fact that *experienced* graduates were more likely to find college to be closer to their expectations than graduates of *beginning* programs.

Table G3 *(Sample of same high school seniors one year later, May 1994)* **College Experience of Graduates**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
Type of School Attended:	**%**	**%**
Two-year (technical college)	46.0	33.3
Four-year (college/university)	54.0	60.0
Specialized Vocational	0.0	0.0
Other	0.0	0.0
Enrolled in Class:		
Full-time	86.9	92.3
Part-time	13.1	7.7
Type of Program:		
Business	13.3	17.0
Fine Arts	8.3	6.8
General Arts and Sciences	35.0	22.0
Health/Science	20.0	25.4
Technical	13.3	15.3
Other	10.0	13.6
Education Plans Changed After High School: *		
Yes	26.8	15.2
No	73.2	84.8
Current School is Different Than Expected:		
Agree	27.8	31.8
Somewhat agree	33.3	38.6
Disagree	38.9	29.6
Percent of Classes Which are Transferable: *		
(two-year students)		
0 to 25%	8.0	15.8
26 to 75%	12.0	0.0
Over 75%	48.0	15.8
Don't know	32.0	68.4

* Significant at the .05 confidence level.

Table G3 (Continued page 2) *(Sample of same high school seniors one year later, May 1994)* College Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Cumulative Grade Point Average: *	%	%
3.5 or above	10.7	17.8
3.0 to 3.49	42.9	24.4
2.5 to 2.99	19.6	33.3
2.0 to 2.49	17.9	17.8
Below 2.0	8.9	6.7
Like College Classes:		
Very much	44.6	43.5
They're O.K.	51.8	56.5
Not at all	3.6	0.0
College Classes Completed: *	#	#
1	1.9	0.0
2 to 4	11.1	17.4
5 to 7	24.1	10.9
8 or more	63.0	71.7
Have Taken Remedial or Non-credit Courses in College:	%	%
Yes	16.1	19.6
No	83.9	80.4
Chances of Graduating:		
Excellent	71.4	62.2
Pretty good	23.2	28.9
Questionable	3.6	6.7
Don't expect to finish	1.8	2.2
Earned Certificates or Diplomas Since High School: *		
Yes	10.7	0.0
No	89.3	100.0
Received College Credit for Some High School Courses: *		
Yes	19.6	32.6
No	80.4	67.4
* Significant at the .05 confidence level.		

Table G3 (Continued page 3) *(Sample of same high school seniors one year later, May 1994)* College Experience of Graduates	Experienced Tech Prep Program	Beginning Tech Prep Program
Had Part-time Jobs in HS That Helped With College Classes:	%	%
Yes	23.2	19.6
No	76.8	80.4
Participating in Apprenticeship or Co-op Program:		
Yes	3.6	9.1
No	96.4	90.9
Currently Working:		
Yes	58.9	67.4
No	41.1	32.6
Hours Per Week of Work and Class Attendance:		
Less than 9	9.1	15.2
10 to 20	25.5	28.3
21 to 30	14.6	6.5
31 or more	7.3	10.9
Don't work while attending school	43.6	39.1
* Significant at the .05 confidence level.		

C. Faculty and Staff Survey Results

1. *Overall results*

The teachers and other staff submitted their impressions of the schools, the education they were providing students, and their perceptions of Tech Prep. Perceptions of Tech Prep differed between the two groups.

The *experienced* Tech Prep group is much more enthusiastic about Tech Prep than those in the *beginning* group. Thirty-six percent of the *experienced* Tech Prep staff members thought that the program had made them more effective as educators compared to 13 percent of the *beginning* Tech Prep staff members. Seventy-one percent of the staff members in *experienced* programs thought that Tech Prep had a beneficial impact on the school compared to 25 percent of those in *beginning* programs.

Staff members in the *experienced* Tech Prep programs had a better grasp of the philosophy of Tech Prep compared to the *beginning* group. Over 90 percent had either had the program explained to them or been involved in its development compared to 60 percent of those in *beginning* programs.

Taking these differences into consideration, faculty and staff members in the *experienced* schools had a more positive perception about improvement for the students and communities than did those working in the *beginning* Tech Prep schools. The differences are most noticeable regarding the value of applied academics. The staff members in *experienced* Tech Prep schools thought that applied academics methods helped students achieve better grades than traditional methods. Twenty-six percent held this view in *experienced* schools compared to 9 percent in *beginning* Tech Prep programs. By nearly the same margin, *experienced* staff members thought students in applied academics classes were more attentive than was the case in traditional lecture classes.

The *experienced* staff members thought that students who took applied academics classes were more likely to graduate than would be the case without the approach. This belief was held by one-third of the *experienced* staff compared to 15 percent of the *beginning* staff members. By an even stronger margin, 39 percent to 15 percent, the *experienced* staff thought that students in applied classes would continue their education after high school. Thirty-five percent of the faculty in the *experienced* Tech Prep programs believe that applied academics and Tech Prep improved student/teacher interactions compared to 12 percent in the *beginning* Tech Prep programs.

An overwhelming 69 percent of the staff members in the *experienced* Tech Prep programs believed that Tech Prep had provided a positive educational alternative for students not planning to enter a 4-year college, compared to 32 percent of those in *beginning* programs. Thirty-five percent of *experienced* Tech Prep staff members believed that Tech Prep and applied academics programs equipped students better to continue their postsecondary technical education or to gain meaningful employment compared to 13 percent of those in *beginning* programs. Over 90 percent of the staff members in *experienced* Tech Prep programs thought Tech Prep had been at least somewhat successful compared to less than 60 percent of those in the *beginning* programs.

Changes in course weightings were perceived as an improvement in the *experienced* schools compared to the *beginning* schools. The staff members in *experienced* schools also made better use of outside resource persons than those in the *beginning* schools. They were much more enthusiastic about receiving help in developing an applied academics curriculum. The *experienced* school staff also indicated staff development as the highest ranked source of information regarding what employers wanted, along with informal contacts or reading, while the *beginning* staff members ranked in-service staff development third out of five choices.

2. Faculty and staff years of experience

The staff perceptions in the two groups were not significantly different in terms of their years of experience. Overall, the staff in the *beginning* group had one more year of experience, but not enough to conclude that experience was a significant factor. Both sets of staff had substantial experience with at least 17 years on the job. Differences in their perceptions cannot be attributed to their years in service.

Table F1 *(All high school faculty and staff, May 1993)* **Faculty and Staff Years of Experience**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
	Years	**Years**
Average years at school	10.7	10.3
Average years in the district	11.6	11.3
Average years in job category		
Teaching	13.9	14.4
Administration	27.1	24.7
Counselors	21.8	21.2
Librarians	9.7	15.2
Other	12.2	15.1
Overall	16.9	18.1
	%	**%**
Worked in another school district	54.6	62.9

3. *Faculty and staff perception of program quality*

In summary, compared to those staff members in the *beginning* group, staff members in the *experienced* Tech Prep group were more likely to believe that the high school Tech Prep program was providing a high quality education to students, especially those students who did not aspire to a 4-year college degree. The sense of improved quality was pervasive across several measures of quality for both groups, but the *experienced* staff members were generally more positive in their assessment of the quality of education they were delivering.

One-fifth of the staff members in *experienced* programs believed that students had improved over the last several years compared to one-tenth of those in *beginning* schools. Half of those in the *experienced* schools thought they were doing a better job for the community compared to one-third of those in the *beginning* institutions. Two-thirds of the staff members in the *experienced* schools noted improved education for students not seeking a 4-year college education compared to 36 percent of those in the *beginning* schools.

Staff members in the *experienced* schools gave more credit to administrators for their leadership than those in *beginning* schools. The administration was credited for leadership by 72 percent of the staff in *experienced* schools compared to 54 percent in the *beginning* schools.

Table F2 *(All high school faculty and staff, May 1993)* **Faculty and Staff Perception of Program Quality**	**Experienced Tech Prep Program**	**Beginning Tech Prep Program**
	%	%
Top quarter	54.5	46.7
Improvement of students	20.1	10.0
Schools doing better for communities	48.9	33.3
Improved education for students not attending 4-year colleges	66.6	36.0
Administration provided leadership in most cases	72.2	54.3
Makes better use of outside resources	55.0	35.3

4. *Faculty and staff perception of student experience*

Staff in *experienced* Tech Prep schools were more positive about the students in their high schools compared to the *beginning* Tech Prep schools. There were two exceptions to this finding. The first was the perception that the *experienced* schools were having an increase in drug and alcohol use by students relative to the *beginning* schools. The second was the perception of staff members in *experienced* schools that parents were less willing to participate in school activities compared to the *beginning* Tech Prep schools. The *experienced* Tech Prep schools were more highly rated than the *beginning* Tech Prep programs on all of the following measures:

- Students were more challenged and motivated to learn;
- the school did a better job of preparing students for work;
- the school provided increased support for Tech Prep/vocational students;
- Tech Prep helped bring about an improvement in student attendance and a decrease in rates of theft and vandalism.

Table F3 *(All high school faculty and staff, May 1993)* Faculty and Staff Perception of Student Experience	Experienced Tech Prep Program	Beginning Tech Prep Program
	%	%
Students seem more challenged in most cases	25.0	19.1
School doing better job preparing students for work	50.4	33.3
Increasing support for Tech/Prep students	71.5	45.3
Students more motivated to learn	21.5	11.7
Noticeable improvement in student attendance	18.6	11.0
Improved relations among students groups	11.6	6.8
Increase in theft and vandalism	22.5	30.9
Increase in student use of drugs and alcohol	13.2	1.5
Parents are less willing to participate in school activities	19.4	14.0

5. *Selected Comments From Faculty and Staff*

Faculty and staff members were asked to include comments on their surveys regarding the impact of Tech Prep on their schools. A selection of these comments is included below:

The Tech Prep Initiative has:

- *Helped teachers make "an equal contribution working with tech prep as well as on college-bound. There is more of a positive atmosphere among teachers and students."*
- *Introduced " new methodologies in teaching, more relevance put on vocational courses, and vocational/academic teachers working together."*

- *" been well received by faculty, who have been well trained through workshops to teach their particular classes."*
- *"awakened a pro vocational ed attitude. No longer are we being seen as a dumping ground for the troubled student."*
- *"brought about a good fading of division lines between "academic" and "vocational" programs and students...(Our school) no longer has an elitist attitude...and most teachers teach at least one class in the tech prep path area. Further, the applied teaching techniques which have come from tech prep training have been used to strengthen many of the college prep and Honors courses, and teachers have learned how to make learning less abstract and more relevant for students."*
- *"builds self esteem and gives the student a broader perspective of educational and vocational opportunities."*
- *Offered "students experience (in using) interactive problem-solving techniques which exposes them, simultaneously, to the practical perspective of education."*

10. CONCLUSIONS

A. Summary

The PACE Tech Prep program provides an alternative to "general education" track based learning. By creating a partnership between the high schools, local business communities, and the Tri-County Community College, Tech Prep provides high school student not on track to attend four-year colleges with training and education designed to allow for a seamless transition into postsecondary education and/or a well paying, career-oriented job in a mid-level technology field.

This conclusion is based on assessment of four Tech Prep claims or assumptions. The evaluations of each of these claims are summarized below.

B. Evaluation of the Four Claims of Tech Prep

Evaluation of Claim 1: Students will be more motivated in Tech Prep schools.

Students in *experienced* Tech Prep programs were more satisfied with their high school experience. Compared to *beginning* Tech Prep programs, *experienced* Tech Prep programs had better student relations, less student absenteeism, and lower levels of vandalism. Students in *experienced* Tech Prep programs were consistently more positive about their educational experience and treatment by the high school teachers and counselors than students in *beginning* programs.

Evaluation of Claim 2: Staff in Tech Prep schools will see better results.

Faculty who participated in Tech Prep believed that it has improved education in their schools. Many of the faculty and staff members believed that Tech Prep was most beneficial for their non-4 year college prep students.

Through interviews with teachers and staff and written comments from Faculty and Staff Survey respondents, it became evident that they felt that when high schools committed themselves to Tech Prep, they opened the door to other improvements and change. In part, this grew out of a belief that the traditional general education approach had not been successful for their students or their community. Faculty and staff members in *experienced* Tech Prep high schools were more involved in professional interactions which brought about changes in the curriculum content and methods. Many teachers were uncomfortable with the changes at first, but through experience they came to understand the value of Tech Prep's applied academics approach. This transition provided a platform to reexamine other educational practices and conventions. Breaking down the traditional barriers between academic and vocational education excited many of these teachers who had previously seen themselves only as academic teachers.

Evaluation of Claim 3: Students will be more likely to attend a 2-year college.

The claim that Tech Prep will propel more high school students into postsecondary schools was harder to substantiate. In part, this was because current record keeping systems for the area high schools and the state did not allow for tracking students through secondary and postsecondary education. Since motivation levels among high schools seniors did show improvement, the assumption might be made that there was some increase, related to Tech Prep, in the number of students moving on to 2-year colleges. Enrollment at 2-year colleges has steadily increased in the area since the inception of the PACE program. However, there is insufficient evidence at this time to determine if this increase can be attributed to Tech Prep, to socioeconomic conditions in the community, or to other factors.

Evaluation of Claim 4: Students who go directly into the job market will get better jobs.

For those students entering the job market directly upon graduation from high school, it was difficult, if not impossible, to distinguish between those who were starting a career and those who were casual workers earning money to support other pursuits. Many students who were employed part-time while attending high school continued on as full-time employees, while other students credit family members or other acquaintances with finding them work. It was not apparent whether these students would have qualified for these jobs without the benefit of Tech Prep.

C. Observations

Based on site interviews and focus group discussions as well as document review, the Academy for Education Development team made the following observations.

1. Forming closer relationships among the high schools, businesses and colleges helped foster change. For example, teachers who visited employers came back with new examples of what

to teach and how to teach. Businesses were not only able to provide equipment to the high schools and open access to their businesses, but also provided employees to the schools on an extended loan basis. These person-to-person contacts at the school level provided a more meaningful exchange of ideas and information than the traditional meeting between school administrators and businessmen at the local service club. Collaborative curriculum development helped teachers become more aware of the local employment demands and the skills that are required of mid-level employees. Teachers also improved communication with their peers at both the secondary and postsecondary levels.

2. In general, experience with Tech Prep seemed to help high schools reevaluate their traditional general education curriculum. Teachers became more open to reconsidering the way all their classes were taught, not just the applied academics classes. Course weighting was changed so that Tech Prep students were evaluated based on the new curriculum requirements and not on past academic standards. Even the fifty-minute class hour was challenged because it is suited to traditional lecture-based education methods and not the more time consuming applied academics approach.

3. High schools that have been successful in preparing their students for college are less likely to embrace the Tech Prep philosophy. However, administrators from the *experienced* tech prep schools all expressed frustration with the traditional approach to high school education. Early speeches describing the Tech Prep model motivated these administrators to search out more information and get members of their staff to attend conferences and meetings which helped define Tech Prep. This preliminary work laid the foundation for the development and implementation of Tech Prep at the local level.

4. Changes in school leadership delays the development of Tech Prep programs in high schools. Because the college prep, general education, and vocational education models are the standard curriculum, they become the default setting for most high school principals and teachers who are uncertain about what to do. Continuity of leadership is necessary to develop a successful Tech Prep program. Faculty members in the *experienced* Tech Prep programs have been more likely to credit the administration with leadership than teachers in *beginning* Tech Prep programs.

5. It is still likely that Tech Prep is perceived by some as a less attractive option than college prep. This probably explains the state's resistance to accepting applied academics class credits to fulfilling basic admission requirements. Students who are unsure about their options after high school may play it safe and take college prep courses when they could benefit from the applied academics approach.

6. Teachers fought against the use of Tech Prep classes as a dumping ground for problem students and students who had marginal ability. In order to succeed, applied academics needs to be perceived as a legitimate and rigorous alternative to college prep. It cannot become a watered down educational program for those students who do not fit in more challenging classes.

7. There was no easy link between high school experience and work after high school. Even students in *experienced* Tech Prep programs did not credit their high school program with preparing them for their job. Nor did students relate that anyone on their high school staff had played a key role in their getting a job. There are several possible explanations for this. First, the program benefits may not be immediately evident to the student. Given the limited experience of students, they

may not realize the value of the help received until after they have developed a better perspective on the direction of their careers. Second, the value of education may not become evident until a career advances beyond the entry level stage. Third, the students may not credit the general skills learned in high school for achieving personal goals, but rather acknowledge their own efforts.

8. The proponents of the Tech Prep model suggest that the development of formal apprenticeship programs and co-op work experiences will fortify and improve high school training for technical jobs. However, it takes a great deal of planning and coordination between schools, employers, and students to accomplish and sustain such a program. Often such practices are logistically impossible. These barriers were mentioned by faculty and staff as reasons why apprenticeships and co-ops were not more widely implemented.

9. Informal student jobs are the foundation for any work experience program. In some cases, schools were working with local fast food employers to develop complementary training programs and developmental supports. These approaches may be more realistic than the more formal apprenticeship models because more students can be served with less effort.

10. Students who are not bound for 4-year colleges identify work as a more central motivating factor than attending some kind of postsecondary school. Tech Prep students are more likely to anticipate attending college part-time and working full- or part-time when compared to college prep students. Students who said they planned to attend college part-time while they worked were more likely not to attend one year later than those who said they planned to attend full-time. Understanding this need to work may prove to be a key component of a successful Tech Prep program.

11. Outside resources played an important role in helping develop Tech Prep programs in the *experienced* high schools. For teachers, on-the-job training was consistently noted as an important part of developing a Tech Prep program. Specifically, teachers were excited about the opportunity to share ideas with teachers at other high schools. There is some dissatisfaction with the applied academics curricula published by commercial firms, and these training sessions helped teachers modify the material to suit their own purposes. Most schools of education do not provide training in teaching applied academics, so the training offered through PACE provided the only resource available to many of these teachers.

In conclusion, this study confirms the claims that Tech Prep programs provide an alternative educational track for students who do not anticipate attending a 4-year college. These programs enable them to aspire to a 2-year college and/or more meaningful employment. The PACE consortium, through the participation of faculty, staff and the local business community, has created the basis for an effective Tech Prep program. Through this program, high school students and faculty in the tri-county area have become more enthusiastic and motivated to succeed.

D. Recommendations

The results of this study show that some aspects of the PACE Tech Prep model need refining:

1. More effort should be given to helping students find jobs as they leave high school. Tech prep programs provided students with job search skills, but did not take the final step of providing placement offices. Most of the students who went directly into the job market after high school depended on family and friends to get them job interviews. Developing a high school job placement office may serve the second function of helping high schools to review the employment needs of their communities in a more systematic way. It could also provide a way to determine how successful graduates were in the employment market.

2. A state level 'student unit' record system that spans the secondary and postsecondary levels should be implemented to allow high schools and colleges to keep track of how students with different skills and educational experiences are moving through the educational system and into the labor market. Progress toward systematic data collection and evaluation is being made.

3. Formal structures of time and resources within the high school have a great deal to do with the success of Tech Prep programs. Teachers need time to develop new course plans and work with others outside of regular school time. The daily regime of six or seven fifty-minute classes limits the teaching options. Constraints on the availability of transportation limits the opportunity of students to visit businesses. Funds should be made available to allow staff members to attend training programs or conventions to learn how to develop the professional skills to make Tech Prep work. Small organizational limits can be the choke point for a successful Tech Prep program.

Experienced Tech Prep programs were more likely to receive small planning grants to subsidize travel to conventions. They found transportation for students and got release time for faculty and staff to attend training sessions. It is difficult to determine if the interest in Tech Prep motivated administrators to find the resources or if the availability of special funds helped get them interested. Either way, the availability of small sources of funding is a necessary condition for successful Tech Prep programs.

APPENDIX I

Tables N1 - N10
Students not Planning to Attend 4-year College
(High school seniors, May 1993)

STUDENTS NOT PLANNING TO ATTEND 4-YEAR COLLEGE
TABLES N1-N10

Table N1 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Student and Family Characteristics	Experienced Tech Prep Program	Beginning Tech Prep Program
	Years	Years
Age	17.9	17.7
	%	%
Male	49.8	48.9
Non-minority	84.9	81.7
U.S. citizen	99.1	97.5
Speak English at home	99.1	97.5
Parents married	65.3	61.2
Mother college graduate	10.5	12.9
Father college graduate	17.4	13.7
Live with both parents	59.8	56.5
Two or more siblings	18.3	21.6
Attended another high school	15.1	16.9

Table N2 Students Not Attending 4-Year Colleges *(High school seniors, May 1993)* Student Self Ratings	Experienced Tech Prep Program	Beginning Tech Prep Program
Above Average:	%	%
Academically	13.7	18.7
Mechanically	25.6	27.0
Drive to achieve	30.6	32.0
Self confidence	37.9	32.0
Organization of time	26.5	31.3
Social maturity	48.9	50.7

Table N3 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* High School Classes	Experienced Tech Prep Program	Beginning Tech Prep Program
Type of Classes Taken:	%	%
Advanced Honors	12.3	10.1
College Prep	74.9	69.1
Applied Academics	59.8	54.0
Basic or Remedial	26.5	27.7
Occupational/Vocational	53.0	35.3
Fine Arts or Other Special Electives	25.1	18.3
College Prep Classes Were Usually:		
Challenging	50.0	45.8
Relevant	40.2	35.9
Lecture and memorization	39.0	48.4
Structured	27.4	27.6
Applied Academic Classes Were Usually:		
Challenging	39.7	28.0
Relevant	42.7	32.7
Lecture and memorization	17.6	17.3
Structured	69.5	58.7
Vocational/Occupational Classes Were Usually:		
Challenging	28.0	31.0
Relevant	23.3	23.1
Developed problem solving/team work skills	28.4	27.8

Table N4 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Support From Counselors and Teachers	Experienced Tech Prep Program	Beginning Tech Prep Program
Number of Times Help was Received:	%	%
0-2	15.1	23.0
3-6	46.6	41.4
7-10	14.2	14.7
10+	24.2	16.5
Who Helped Most in Selecting & Understanding Courses		
Teacher	38.8	20.5
Counselor	32.9	19.4
People at High School:		
Definitely helpful and supportive	29.7	17.6

Table N5 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Work Experience	Experienced Tech Prep Program	Beginning Tech Prep Program
Months worked last year	8.3	8.1
Average amount earned	$3,250	$3,435
Average paid per hour	$5.05	$4.96
Hours worked per week	22	25
Had a co-op, internship, apprenticeship	10.5%	10.4%

Table N6 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* High School Experience	Experienced Tech Prep Program	Beginning Tech Prep Program
	%	%
Took classes which qualified for TAP	32.9	17.6
Took remedial or development classes	19.2	17.6
High school arranged visits with businesses	54.8	25.9

Table N7 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Attendance Behavior	Experienced Tech Prep Program	Beginning Tech Prep Program
Respondents:	%	%
Considered dropping out of high school	19.2	16.9
Dropped a class because afraid of failing	26.9	22.7
Skipped School:		
Never	40.2	30.6
Couple times a year	39.3	38.5
Six times a year	5.9	10.4
Once a month	7.3	9.4
Every week	5.0	5.4

Table N8 **Students Not Planning to Attend 4-Year College** *(High school seniors, May 1993)* **Confidence About the Future**	Experienced Tech Prep Program	Beginning Tech Prep Program
HS Prepared Respondent to Continue at:	%	%
Two-year College:		
Very well	38.4	28.4
Adequately	54.3	60.4
Poorly	3.2	6.8
Four-year College:		
Very well	18.3	14.4
Adequately	56.6	59.7
Poorly	16.4	18.3
Employment Paying More than Minimum Wage:		
Very well	34.7	27.7
Adequately	45.2	54.7
Poorly	14.6	11.5
Plans to Spend the Summer:		
Vacation	47.0	51.4
Work full-time	57.1	44.6
Summer school	1.8	0.0
Work part-time	31.5	37.8
Other	10.0	14.4

Table N9 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Postsecondary School Plans	Experienced Tech Prep Program	Beginning Tech Prep Program
Of Those Who Plan to go to College:	%	%
Have applied	57.4	61.0
Plan to attend full-time	56.8	65.5
Do not plan to work while in school	5.6	11.0
Most Important Reason for Going to College:		
Believe I'll get a good job	68.5	61.5
Parents want me to go	14.2	11.0
Lots of my friends are going	4.3	6.0
Worried about finding a job	22.8	26.0
Interested in learning	24.1	21.5
How Respondents Plan to Pay:		
Parents	50.0	51.5
Will work	29.6	25.0
Hope to get student aid	41.4	35.5
Other	4.3	7.0
Type of Degree Planned:		
Certificate	16.7	12.0
Associate	49.4	52.0
Bachelors	34.0	34.0
When in College:		
Plan to transfer to another college	38.3	40.0
Will need tutoring or special help	27.2	25.5
Chances of Succeeding in College:		
Doubt I'll graduate	1.9	1.5
Work hard to graduate	32.1	28.0
Confident I'll graduate	38.3	30.0
Certain I'll graduate	23.5	30.0

Table N10 Students Not Planning to Attend 4-Year College *(High school seniors, May 1993)* Work Plans	Experienced Tech Prep Program	Beginning Tech Prep Program
Of Those Who Do Not Plan to Attend College:	%	%
Looking for or have a full-time job	70.7	60.4
Of Those Who Were Not Going to Work or College:		
Getting married	14.3	8.2
Work with family	8.2	6.8
Military	4.1	16.4
Community service	2.0	2.7
Other	55.1	49.3

APPENDIX II

Student Exit Survey

Student Follow-up Survey

Faculty and Staff Survey

High School Assessment Inventory for Tech Prep Implementation

Career Center Assessment Inventory for Tech Prep Implementation

AED

Academy for Educational Development

PACE TECH PREP EVALUATION

Student Exit Survey

Code ____

We need some information so we can find you again next year in case you move. Please fill out the following items.

A. Locating Information

1. Name and Social Security Number

   Name_____

   Social Security Number_____

2. Parents' name, address and telephone number

   Name_____

   Street_____

   City_____State_____Zip Code_____

   Telephone _____

3. Driver's license number

   State_____

   Number_____

4. Grandparents' telephone number_____

   Grandparents' name_____

5. Name of high school from which you will graduate_____

6. This signature authorizes the release of my high school transcript to be forwarded to the appropriate address as requested by the PACE evaluators.

   _____ _____

   Signature Date

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

B. Personal Characteristics

1. Age_____

2. Sex Male _____ Female _____

3. Race or ethnic group identity

Hispanic	__	Asian	__
Black, Non-Hispanic	__	American Indian	__
White, Non-Hispanic	__	Other	__

4. Are you a U.S. Citizen? Yes __ No __

5. Do your parents speak English at home?

Yes __ No __

C. Student Background Characteristics

1. Family

a. Parents' marital status

Married	__	Separated	__
Divorced	__	Other	__

Code ____

b. Parents' education

Mother:	less than high school	_
	high school	_
	some college, but did not graduate	_
	finished two-year college or technical school	_
	finished four-year college	_
	finished graduate school	_
Father	less than high school	_
	high school	_
	some college, but did not graduate	_
	finished two-year college or technical school	_
	finished four-year college	_
	finished graduate school	_

c. Parents' occupations

Mother's Job Title _____

Father's Job Title _____

d. Which parent do you live with most of the time?

Mother	_	Father	_
Neither	_	Both Parents	_

e. Number of brothers and sisters besides yourself currently dependent on your parents for support. Don't count anyone who has moved out on their own.

None _ Three _

One _ More than three _

Two _

f. Do your parents own their home or rent?

Own their home _ Rent _

2. Personal:

a. List your hobbies and interests

_____

_____

b. Please list any clubs or organizations in which you have been active during high school (church, community, or school).

_____

_____

_____

c. List any special assignments or jobs you had in the organizations mentioned above.

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

d. How would you rate yourself on the following?

	Above Average	About Average	Below Average
Academic ability	____	____	____
Mechanical ability	____	____	____
Drive to achieve	____	____	____
Self-confidence	____	____	____
Ability to organize personal time	____	____	____
Social maturity	____	____	____

3. Did you attend any other high school besides the one from which you will graduate?

Yes __ No __

If yes, month and year transferred_____

Name of former school _____

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

D. Description of high school program you took

1. Please indicate the types of courses you took in high school (check as many as apply):

__ Advanced or honors academics

__ College preparatory academics

__ Applied academics (Physics for the Technologies, Communication for the workplace, etc).

__ Basic or remedial academics

__ Occupational/vocational

__ Fine arts or other specialized electives

2. If you took college preparatory academic classes, did you find that they were:

		Usually	Sometimes	Rarely
a.	challenging	___	___	___
b.	boring	___	___	___
c.	relevant to your post-high school plans	___	___	___
d.	mostly lecture and memorization	___	___	___
e.	structured to include group work, projects, and practice with real world situations	___	___	___

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

3. If you took **applied academic classes** (Physics for the Technologies, Communication for the Workplace, etc.), did you find that they were:

		Usually	Sometimes	Rarely
a.	challenging	___	___	___
b.	boring	___	___	___
c.	relevant to your post-high school plans	___	___	___
d.	mostly lecture and memorization	___	___	___
e.	structured to include group work, projects, and practice, with real world situations.	___	___	___

4. If you took vocational/occupational courses in high school or through a career center, list the courses you completed.

_____

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code _____

5. How would you describe the vocational/occupational courses you completed (check as many as apply):

___Challenging

___Relevant to post-high school plans

___Boring

___Helpful in developing problem-solving and team work skills

___Sometimes not as challenging as expected

___Other_____

6. Estimate the number of times you met with a guidance counselor while in high school:

___ 0-2 ___ 7-10

___ 3-6 ___ 10 or more

7. How much assistance or information did you receive from your teachers and/or counselors in understanding careers and selecting your career direction? (Check as many as apply.)

___ A great deal from at least one teacher

___ A great deal from at least one counselor

___ Some from teachers

___ Some from counselors

___ Little or none from teachers

___ Little or none from counselors

Code ____

8. Do you feel the people at your school were interested and supportive of your success in high school?

___ Yes, definitely ___ Yes, most of the time

___ Not really ___ Most could care less

9. Did you take any high school courses that would qualify you for technical advanced placement (TAP) credit at an area technical college?

Yes __ No __

10. Did you take any special remedial or developmental classes?

Yes __ No __

E. Work Experience

1. List part-time jobs held during the last year

_____

_____

_____

2. During the last year, how many months did you work either part-time or full-time?

_____

a. List the job that paid you the most.

_____

Code ____

b. How much money did you earn during the year.

_____

c. How much were you paid per hour?

_____

d. How many hours per week did you typically work?

_____

3. In addition to the work you just listed, did you participate in any school sponsored co-ops, internships or apprenticeship programs?

Yes __ No __

4. Did your high school ever arrange visits with businesses in your community?

Yes __ No __

F. **Evaluation of Education**

1. What did you like about your high school experience?

_____

_____

_____

What was your favorite class? Why?

_____

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

2. What did you dislike about your high school experience?

_____

_____

_____

What was your least favorite class? Why?

_____

3. Who in the school helped you the most? List the job title.

_____

_____

_____

4. Describe your best educational experience outside of class during your high school years.

_____

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

5. Did you ever consider dropping out of high school?

   Yes ___ No ___

   a. If yes, why?

   _____

   b. What changed your mind?

   _____

   c. Did you ever drop a class because you were afraid you were going to fail?

   Yes ___ No ___

6. How often did you skip school or a class just because you didn't feel like going?

   __ Never
   __ Nearly once a month
   __ A couple of times a year
   __ Close to every week
   __ Maybe six times a year

7. What do you think could be done to improve education in this high school?

_____

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code _____

8. Has your high school prepared you ...

... for continuing education at a two year college?

__very well __adequately __poorly

... for continuing education at a four-year college?

__very well __adequately __poorly

... for entering employment in a position paying more than minimum wage?

__very well __adequately __poorly

Code ____

G. Future Plans and Goals

1. Short-term plans: What are you planning to do this summer? (check all that apply)

__ Take a vacation

__ Work full-time

__ Go to summer school

__ Work part-time

__ Other_____

Next fall?

__ School full-time

__ Work full-time

__ Work and school

__ Start a family

__ Other _____

PACE TECH PREP EVALUATION
Student Exit Survey

Code _____

2. Education plans (if you do not plan to continue school, skip to section 3, Work Plans):

   a. Which institution will you probably attend?

   _____

   b. What type of institution is it?

   __ Two-year technical college

   __ Four-Year college/university

   __ Specialized vocational school

   c. Have you already applied?

   Yes __ No __

   d. What made you decide to attend this college or school?

   _____

   _____

   _____

   e. Will you attend full-time or part-time?

   Full-time __ Part-time __

   f. Do you plan to work while you go to school?

   __ No

   __ Yes, part-time (complete Section 3, Work Plans)

   __ Yes, full-time (complete Section 3, Work Plans)

PACE TECH PREP EVALUATION
Student Exit Survey

Code _____

g. What was the most important reason for continuing your education past high school? (Mark 1 for the most important, 2 for the next, and so on)

__ Believe I can get a better job

__ Parents wanted me to go

__ Lots of my friends are going

__ Worried about finding a good job

__ Interested in learning

h. How do you plan to pay for your next year's schooling? (Mark 1 for the most important, 2 for the next, and so on)

__ Parents will help

__ I will work

__ Hope to get student aid

__ Other_____

i. What will be your major course of study?

_____

_____

_____

Code ____

j. What degree(s) are you seeking?

__ Certificate

__ Associate

__ Bachelors

k. Will you have to transfer to another college to get that degree?

Yes __ No __

l. Do you think you will need tutoring or special help in the school/college you will attend after high school?

Yes __ No __

m. How certain do you feel about your chances of succeeding in school/college?

__ I have doubts that I will graduate

__ If I work hard I think I can graduate

__ I am pretty confident I will graduate

__ I am very certain I will graduate

n. What do you want to do after you finish your schooling?

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code _____

3. Work plans:

   a. Are you looking for, or do you have, a full-time job?

      Yes __ No __

   b. If no, what will you be doing?

      __ Getting married and starting a family

      __ Working with my family

      __ Military service

      __ Community service or volunteer work

      __ Other

   c. If yes, what type of job do you think you will get?

      _____

      _____

   d. What type of job would you like?

      _____

      _____

   e. What attracted you to this type of job?

      _____

      _____

      _____

Code ____

f. Do you know anyone who has a job like this?

Yes __ No __

g. Do you have any experience with this type of job?

Yes __ No __

Describe the experience.

_____

_____

_____

_____

h. Will you stay around the community or go out of town to find this type of employment?

__ Stay in town

__ Go out of town

__ Not sure

i. Did you learn anything about this job in high school?

Yes __ No ___

j. What do you think you can earn each month at first?

_____

_____

PACE TECH PREP EVALUATION
Student Exit Survey

Code ____

k. Have you started looking yet?

Yes __ No __

l. Has anyone given you any help in how to find a job?

Yes __ No __

m. Who?

__ Parent or Relative

__ Some one at school

__ Church or club

__ Other

n. What kind of help have you received? (Mark as many as necessary.)

__ How to complete a job application

__ How to write a resume

__ How to interview

__ How to find job openings

__ Other_____

o. What type of work do you see yourself doing in five years?

_____

_____

_____

Code _____

p. What do you think is most important in a job?

__ Money

__ Chance for promotion

__ Get to do interesting work

__ Work with good people

__ Other_____

4. Personal plans:

a. Do you think you will be married in five years?

Yes __ No __ Maybe __

b. What about having children in five years?

Yes __ No __ Maybe __

c. Do you think you will still be working?

Yes __ No __ Not sure__

AED
Academy for Educational Development

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

DIRECTIONS:

PART A, *GENERAL STATUS*, should be completed by EVERYONE.

PART B, *WORK*, should be completed if you are working full- or part-time, or in the military.

PART C, *SCHOOL*, should be completed if you are attending school full- or part-time.

(PART B, *WORK*, and PART C, *SCHOOL*, *both* should be completed if you are working AND attending school.)

PART D, *NOT WORKING/NOT IN SCHOOL*, should be completed if you are NOT working or NOT attending school.

PART E, *ACTIVITIES AND OPINIONS*, should be completed by EVERYONE.

PART A. *GENERAL STATUS* EVERYONE should complete this section.

1. What is your main activity at this time?

___ Attending school (college or postsecondary training) full-time
___ Working full-time
___ Unemployed and looking for a job
___ Unemployed and not looking for a job
___ Working part-time or going to school part-time
___ Other _____

2. Have you changed your mind about your plans since you left high school?

___ Yes (explain, _____)
___ No

3. Are you currently married?

___ Yes
___ No

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

4. Do you have any children?

___ Yes
___ No

5. Where do you live most of the year?

___ With my parents
___ At college
___ On my own
___ Other _____

6. Have you done any military service?

___ No
___ Yes, reserve
___ Yes, active duty

Complete PART B, *WORK*, (page 3) IF you are working full- or part-time, or in the military, even if you are attending school.

Complete PART C, *SCHOOL*, (page 6) IF you are attending school full- or part-time.

Complete PART D, *NOT WORKING/NOT IN SCHOOL*, (page 9) IF you are NOT working or NOT attending school.

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

PART B. ***WORK*** **Answer the following questions if you are *working full-time or part-time, in the military,* or *working and attending school.* If you are *NOT* working, but attending school, skip to PART C, *SCHOOL,* to report educational activity, or to PART D, *NOT WORKING/NOT IN SCHOOL,* if you are *NOT* going to school.**

7. What is your job title?

_____

8. Name of the organization for which you work.

_____

9. How much do you make in an average week?

___ Less than $100
___ $100 - $199
___ $200 - $299
___ $300 - $399
___ $400 - $499
___ $500 or more a week

10. How many jobs did you apply for before you found this one?

___ 0
___ 1 or 2
___ 3 - 5
___ 6 - 10
___ Over 10

11. Is this job related to vocational training you completed in high school?

___ Yes (which course/s? _____)
___ No

12. Was it easy to find this job?

___ Yes
___ No

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

13. Did you have to take a test to work here?

___ Yes
___ No

14. Did you need any special license or certificate to get this job?

___ No
___ Yes

15. Do you have health insurance on your job?

___ Yes
___ No

16. Did you get any special training after you started this job?

___ Yes (describe the training _____)
___ No

17. Are you a regular employee or on probationary or temporary status?

___ Regular
___ Temporary or probationary
___ Other _____

18. Did your high school education prepare you for this job?

___ Yes, very much
___ Quite a bit
___ Somewhat
___ No, not at all

19. Did someone at your high school or career center help you find this job?

___ Yes, a teacher
___ Yes, a counselor
___ Yes, a job placement coordinator
___ Yes, (other _____)
___ No one at school helped me

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

20. I think my chance of getting a promotion soon is:

___ Very good
___ Fairly good
___ Not so good

21. Next year,

___ I will still work for this employer
___ I will work for someone else
___ I will not work at all
___ Other _____

22. Did you expect to have this type of job before you graduated from high school?

___ Yes
___ No
___ I didn't think about it

23. Is it a good job for you?

___ Yes
___ Somewhat
___ No

24. Did you know anyone who worked at this place before you got the job?

___ Yes
___ No

25. How many hours per week are you working?

___ Less than 5
___ 5 - 10
___ 11 - 20
___ 21 - 30
___ 31 - 40
___ More than 40

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

26. Does your employer offer tuition assistance programs to help company employees pursue postsecondary/college degrees?

___ Yes, but I *have not* requested any assistance
___ Yes, and I *have* applied for assistance
___ Yes, and I *plan* to apply for assistance
___ No
___ I don't know

If you are also attending school, complete PART C, *SCHOOL*.
If you are NOT attending school, skip to and complete PART E, *ACTIVITIES AND OPINIONS*.

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

PART C. ***SCHOOL*** **If you are *attending school, either full-time or part-time, even if you are also working,* answer the following questions**

27. What type of school (college or postsecondary training) are you attending?

___ Two-year technical college (Name _____)
___ Four-year college/university (Name _____)
___ Specialized vocational school (Name _____)
___ Other (Name _____)

28. Are you enrolled in classes:

___ Full-time
___ Part-time

29. What program are you studying?

___ Business (Name _____)
___ Fine Arts (Name _____)
___ General Arts and Sciences (Name _____)
___ Health/Science Major (Name _____)
___ Technical Major (Name _____)
___ Other (Name _____)

30. Did you change your education plans after you left high school?

___ Yes (Explain, _____)
___ No

31. This school is different than I expected when I enrolled.

___ Agree (How? _____)
___ Somewhat agree (How? _____)
___ Disagree (How? _____)

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

32. How many college classes have you completed that are applicable toward graduation?

___ 1
___ 2 - 4
___ 5 - 7
___ 8 or more

33. If you are currently a student at a two year college (or another postsecondary training program), what percentage of classes that you've taken are transferrable to another college?

___ 0 - 25%
___ 26 - 75%
___ over 75%
___ I don't know

34. What is your cumulative grade point average so far?

___ 3.5 or above
___ 3.0 - 3.49
___ 2.5 - 2.99
___ 2.0 - 2.49
___ Below 2.0

35. Do you like your college classes?

___ Very much (Why? _____)
___ They're O.K.
___ Not at all (Why? _____)

36. Have you taken any non-credit or remedial courses to improve your English or math skills while in college?

___ Yes
___ No

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

37. I estimate my chances of getting a degree are:

___ Excellent
___ Pretty good
___ Questionable
___ I don't think I'll finish

38. Have you earned any certificates or diplomas since high school?

___ Yes (Name _____)
___ No

39. Did you get any college credit for courses you took while you were in high school?

___ Yes (On what basis? [AP credit, etc.] _____)
___ No

40. Did you have any part-time jobs that provided skills or knowledge you used in your college classes?

___ Yes
___ No

41. Are you participating in an apprenticeship or co-op program as part of your college studies?

___ Yes (Where? _____)
___ No

42. Are you currently working?

___ Yes
___ No

43. On average, how many hours a week do you work while attending classes?

___ Less than 9
___ 10 - 20
___ 21 - 30
___ 31 or more
___ I don't work and attend school at the same time

PACE TECH PREP EVALUATION
Student Follow-up Survey

44. Name the job position you would like after you finish your education.

_____

_____

_____

45. Did your high school experience prepare you for postsecondary education and training?

___ Yes, very well
___ In most areas
___ Not much
___ Very poorly

Please continue on to PART E, *ACTIVITIES AND OPINIONS*.

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

PART D. ***NOT WORKING/NOT IN SCHOOL*** **If you are *NOT working or NOT in school*, answer the following questions.**

46. The reason I am not working or going to school is:

___ I am waiting to go in the military
___ I am home raising a family
___ I am looking for a job, but haven't found the right one yet
___ I was working, but lost my job
___ I was going to school, but decided to quit
___ Other _____

47. My plans for next year are to:

___ Work full-time
___ Go to school full-time
___ Go to work and attend school (college or postsecondary training)
___ Stay home and raise my child
___ Join the military
___ Other _____

48. All things considered, not being in school/not working is probably the best thing for me right now.

___ True
___ False

Please complete PART E, *ACTIVITIES AND OPINIONS*.

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

PART E. ***ACTIVITIES AND OPINIONS*** **EVERYONE should answer the following questions.**

49. List all paid jobs you have had since leaving high school.

First job after leaving high school _____

Second job _____

Third job _____

List any other jobs _____

50. Did you start college classes, but leave before you finished them?

___ Yes
___ No

51. I think my future looks:

___ Very good
___ Pretty good
___ I'm worried
___ I have no idea what might happen

52. Looking back, I think my high school courses helped me a lot.

___ Agree
___ Somewhat
___ Disagree

53. I feel good about the choices I have made so far.

___ Yes
___ No
___ Not sure

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

54. Indicate your agreement with each of the following statements. (Place one check mark for each answer.)

a) I learned more in high school than I have since graduating.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

b) I wished I had paid more attention to my courses in high school.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

c) Most of the important things I have learned were taught by my high school teachers.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

d) I can think of three high school teachers whom I should go back and thank for all they did for me.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

e) I can think of at least one high school counselor whom I should go back and thank for all he/she did for me.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

f) My high school teachers really cared about me.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

g) I feel that my high school experiences prepared me to get and succeed at a good job.

- ☐ 1 Agree
- ☐ 2 Somewhat agree
- ☐ 3 Disagree slightly
- ☐ 4 Disagree

55. Indicate *yes or no* to the following items.

a) I voted in the last election.

- ☐ Yes
- ☐ No

b) I read the front page of the newspaper most of the time.

- ☐ Yes
- ☐ No

c) I spent time volunteering this year.

- ☐ Yes
- ☐ No

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

56. What do you consider to be the ideal job/position for you within the next five years?

Job/position: _____

57. What is the most important contribution your high school made toward preparing you for that ideal job/position?

_____

_____

_____

58. Describe the single aspect of your high school experience that helped you the *MOST*.

_____

_____

_____

59. Describe the single aspect of your high school experience that helped you the *LEAST*.

_____

_____

_____

Code _____

PACE TECH PREP EVALUATION
Student Follow-up Survey

Thank you for completing this survey.
Please return your survey in the stamped,
self-addressed envelope provided to:

Dr. Paul T. Bucci
Academy for Educational Development
1875 Connecticut Avenue, N.W.
Washington, D.C. 20009-1202

Please direct any inquiries to:
Johnny Wallace, PACE, (803) 646-8361 Ext. 2247

AED

Academy for Educational Development

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code _____

I. Your Background

This portion of the survey asks a few questions about your background and experience in this school.

1. What was the first year you worked in this school? _____

2. How many years have you worked in this district? _____
   How many total years of experience do you have?_____

3. What is your current job title?
   _____

4. Did you work full-time in another school prior to coming here?

   _____yes
   _____no

5. If you teach, what classes do you generally teach? (Rank your answers if you teach in more than one area; 1 for most frequent, 2 for the next most frequent, etc.).

   _____Math (College Prep or honors)
   _____English (College Prep or honors)
   _____Science (College Prep or honors)
   _____Applied Academics; area _____
   _____General, Basic, or remedial academics; area _____
   _____Social Studies
   _____Foreign Language
   _____Vocational/Occupational Education; area _____
   _____Art/Music/Drama
   _____Physical Education
   _____Other_____

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code _____

I. Your Background

This portion of the survey asks a few questions about your background and experience in this school.

1. What was the first year you worked in this school? _____

2. How many years have you worked in this district? _____
   How many total years of experience do you have?_____

3. What is your current job title?
   _____

4. Did you work full-time in another school prior to coming here?

   _____yes
   _____no

5. If you teach, what classes do you generally teach? (Rank your answers if you teach in more than one area; 1 for most frequent, 2 for the next most frequent, etc.).

   _____Math (College Prep or honors)
   _____English (College Prep or honors)
   _____Science (College Prep or honors)
   _____Applied Academics; area _____
   _____General, Basic, or remedial academics; area _____
   _____Social Studies
   _____Foreign Language
   _____Vocational/Occupational Education; area _____
   _____Art/Music/Drama
   _____Physical Education
   _____Other_____

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code _____

II. Description of the school

The following items provide a chance for you to give us your impression of this school. Several later questions ask specifically about Tech Prep and applied academic courses in your school. Please note that the following questions make a statement, please check the response that coincides with your level of agreement.

1. In terms of quality education, I would rank this school as follows:

   __in the top quarter
   __in the middle half
   __in the lowest quarter

2. Extra counseling and tutoring is available at this school for students who need it.

   __always
   __most of the time
   __sometimes
   __never

3. Working at this school has motivated me to improve my teaching.

   __not at all
   __somewhat
   __significantly
   __not applicable

4. The quality of students in this school has improved over the last several years.

__quality of student has declined
__there has been no improvement that I can see
__there has been marginal improvement
__there has been substantial improvement
__no opinion

5. In general, this school is doing a better job for the community than was the case when I first started working here.

__noticeably worse
__somewhat worse
__about the same
__minimally better
__noticeably better
__no opinion

6. The effort to educate students who are not oriented toward four-year college has improved since I first started working here.

__very much
__somewhat
__not at all
__deteriorated
__no opinion

7. The administration in this school has provided effective leadership in improving the quality of education for students who are not preparing for or planning to enter a four-year college.

__in most cases
__on some cases
__there has been little or no leadership
__has actually been an obstacle
__no opinion

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code _____

---

8. The curriculum in this school is more exciting now than when I first started working here.

__yes, across the board
__in most cases
__in some cases
__no change
__some cases are worse
__most are worse
__no opinion

9. Movement away from course weighting has improved education at this school.

__yes
__no
__I have no opinion

10. Generally speaking, the availability of supplies, materials and equipment has improved at this school.

__yes
__no change
__worse
__no basis to judge

11. The school makes good use of outside resource persons (e.g. District office, State Department of ED, PACE staff, others) compared to earlier years.

__yes
__no change
__has gotten worse
__no basis to judge

12. In my experience, the best use of specialists and consultants by this school has been: (Rank your answers: 1 for most frequent, 2 for next most frequent, etc.).

__remedial skills workshops
__in-service teacher training
__drop-out prevention workshops
__development of applied academics/curriculum
__review of state regulations and policy
__student achievement and drop-out issues
__alternative assessment
__total quality education
__other_____
_____

13. More students seem challenged by education at this school now than when I first started working here.

__yes, in all cases
__in some cases students seem more challenged
__about the same
__fewer students seem challenged
__no opinion

14. I think we are doing a better job of preparing students for employment and long term career development now than we did in the past.

__definitely
__starting to make progress
__no effort to make real changes
__probably worse
__no opinion

15. I have access to information on what skills employers want our high school graduates to have. (Please rank your answer from 1 to 5: 1=source most used, to 5=source least used.)

__based on outside jobs I have held
__based on local employer committees and task forces
__based on reading I have done
__based on in-service/staff development activities
__other_____

16. There is increasing support for the Tech Prep/vocational students in this school.

__very true
__somewhat true
__no noticeable change
__seems to be decreasing
__no opinion

17. I have the sense that fewer students are dropping out now than has been the case historically.

__I'm sure this is true
__This is probably true
__I don't know
__This is probably not true
__I am sure this is not true

18. I think students in this school are more motivated to learn today than they were a few years ago.

__true for most students
__true for a few students
__no noticeable change
__students are generally less motivated
__no opinion

19. I have the feeling that student attendance has improved in the school over the last few years.

__yes, there has been a noticeable improvement
__there has been some improvement
__no noticeable improvement
__attendance seems to be worse
__no opinion

20. Relations among different student groups on campus have been more positive in the last few years.

__yes, there has been a noticeable improvement
__there has been some improvement
__about the same
__gotten worse
__no opinion

21. There has been an increase in student-generated incidents of theft and vandalism on campus.

__yes, a noticeable increase
__there has been a small increase
__incidents are about the same
__no. incidents have been declining
__there has been a noticeable decline in these incidents
__no opinion

22. The incidence of student drug and alcohol abuse is decreasing.

__yes, a noticeable decrease
__there has been a small decrease
__incidents are about the same
__no, incidents have been increasing
__there has been a noticeable increase in these incidents
__no opinion

23. More parents participate in curriculum-related school activities today than was the case a few years ago. (e.g., open house, parent orientation sessions, career planning, etc.)

__yes, this is clearly the case
__sometimes this is the case
__about the same
__less involvement
__no opinion

24. I think our salaries are about the same as those paid in other districts within Anderson, Oconee and Pickens counties.

__yes, they are about the same
__no, they are higher
__no, they are lower
__I have no basis by which to judge

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code ____

III. Tech Prep program

Please help us determine your assessment of the Tech Prep program at your school.

1. I understand the philosophy and practice of Tech Prep at this school.

__I have no idea what this is about
__I have heard about it, but don't have any details
__yes, this has been well explained to me
__I helped develop the program at this school

2. I am involved with the Tech Prep program or related activities at this school.

__on a daily basis
__occasionally
__never

3. My involvement in Tech Prep has made me a more effective educator. (Check one only)

__definitely true, provided some new ideas and reinforced ideas I already had
__somewhat true, provided a few new ideas and techniques
__not true, improvements cannot be attributed to involvement with Tech Prep
__not relevant

4. In general, I believe that Tech Prep has had a beneficial impact on this school.

__definitely
__possibly
__no evidence of this
__detracted
__no opinion

5. Tech Prep has resulted in better student attendance.

__yes, there has been a noticeable increase
__attendance is about the same
__no, attendance has decreased
__I have no basis on which to judge

6. Students in applied academic classes seem more willing to do homework or out-of class projects than students in other types of academic classes.

__yes, this seems true in most cases
__in some cases this appears to be true
__no, I would say they are <u>less</u> willing to do homework and projects
__no because they are rarely given such assignments
__no basis to judge

7. Applied academic teaching methods help students achieve better grades than traditional methods.

__yes, this trend is very noticeable
__some students have better grades, but others do not
__students' grades still seem the same
__students' grades have declined
__no basis to judge

8. Students in applied academic courses pay more attention in class than students in classes that are primarily theory or lecture-based.

__there is strong evidence for this
__varies by specific class
__no evidence
__in fact, they are less attentive
__no basis to judge

9. Students who now take applied academic classes are more likely to finish high school compared to former non-college bound students in the general curriculum.

__yes, I believe this is true
__this may be true
__this is probably not true
__no, this is definitely not true
__no basis to judge

10. Students who now take applied academic classes are more likely to continue their education after high school, at least for a two-year college degree, compared to former non-college bound students in the general curriculum.

__yes, I believe this is true
__this may be true
__this is probably not true
__no, this is definitely not true
__no basis to judge

11. There are better student/teacher interactions because of applied academics and Tech Prep.

__yes, in most cases
__there appears to be some improvement
__I haven't noticed any difference
__no, interaction has deteriorated
__I have no way of judging

12. Tech Prep has provided a positive educational alternative for students who probably are not planning to enter a four-year college right after high school.

__definitely
__somewhat
__not at all
__no way to judge

13. Students in applied academic classes seek more information about their future career options than students in other classes.

__I'm sure this is true
__I think this is true
__I have no way of telling
__I think this is not true
__I'm sure this is not true
__no basis to judge

14. Students seem more interested in taking vocational/occupational classes now than was true before Tech Prep and applied academics.

__yes, I think this is true
__varies too much to be certain
__generally this is not the case
__no basis to judge

15. Students in applied academics seem more interested and engaged in their classes than college prep students.

__I'm sure this is true
__I think this is true
__I have no way of telling
__I think this is not true
__I'm sure this is not true

16. Students are better equipped to pursue further postsecondary technical education or gain meaningful employment because of Tech Prep and applied academics.

__ I'm sure this is true
__ I think this is true
__ I have no way of telling
__ I think this is not true
__ I'm sure this is not true

PACE TECH PREP EVALUATION
Faculty and Staff Survey

Code _____

17. Overall, I believe that the Tech Prep approach has been successful here.

__very successful
__somewhat successful
__not very successful
__very unsuccessful, just another fad
__no opinion

18. I believe the biggest success attributable to Tech Prep and/or applied academic courses is:

_____
_____
_____

19. My biggest criticism of Tech Prep is:

_____
_____
_____

20. Describe what you believe is a good example of an effective applied academics class in your school.

_____
_____
_____

21. Other observations about Tech Prep and this school.

_____
_____
_____

This is the end of the questionnaire. Do you have anything you would like to add concerning your responses?

_____
_____

Again, thank you for your cooperation.

HIGH SCHOOL ASSESSMENT INVENTORY FOR TECH PREP IMPLEMENTATION

PACE Consortium
P.O. Box 587, Highway 76
Pendleton, SC 29670
(803) 646-8361, ext. 2107

Using your best judgment, rank the PACE Consortium high school named below on each of the following characteristics. When ranking, use the scale of 1-5 with 1 being high*, and 5 being nonexistent. Feel free to add comments where you believe they are appropriate.

HIGH SCHOOL: _____
RATER: _____
DATE: _____

1. CURRICULUM DEVELOPMENT AND INTEGRATION

a. Communications for the Workplace courses have been implemented.
1 2 3 4 5

b. Mathematics for the Technologies courses have been implemented.
1 2 3 4 5

c. Applied Biology/Chemistry or ChemCom courses have been implemented.
1 2 3 4 5

d. Physics for the Technologies courses have been implemented.
1 2 3 4 5

e. Other applied academics (e.g., applied economics) have been implemented.
1 2 3 4 5

f. Curriculum development has occurred to support the Tech Prep initiative BEYOND the implementation of commercially-available course materials (i.e., CORD applied academics).
1 2 3 4 5

g. Teachers use appropriate methodologies to teach applied academics courses.
1 2 3 4 5

---

* defined as "high" in comparison to PACE schools as a whole.

PAGE SCORE: ____ (add all responses)

h. The general education curriculum has been eliminated and replaced with an applied academics curriculum that is more rigorous than the general program.
1 2 3 4 5

i. SCANS competencies are purposefully integrated into the applied academics curriculum.
1 2 3 4 5

j. Teachers of applied academics effectively tailor instruction to meet learning requirements of special needs students.
1 2 3 4 5

k. Occupational teachers effectively tailor instruction to meet learning requirements of special needs students.
1 2 3 4 5

l. Teachers of applied academics participate in activities with occupational faculty to better integrate academic and vocational content.
1 2 3 4 5

m. Teachers of applied academics employ a variety of activities to better integrate academic and vocational education (e.g., utilizing "real world" learning projects, involving business persons in classroom activities, shadowing, etc.).
1 2 3 4 5

n. Curriculum development efforts have occurred to link the high school applied academic program with feeder middle schools, and with postsecondary (technical college) programs.
1 2 3 4 5

2. **LEADERSHIP AND SCHOOL ENVIRONMENT**

a. Tech Prep students receive recognition comparable to College Prep students (i.e., through award ceremonies or through school publications which promote accomplishments of Tech Prep students).
1 2 3 4 5

b. Teachers involved with Tech Prep receive active, on-going support from the principal (e.g., joint planning time, encouragement for participation in staff development activities).
1 2 3 4 5

PAGE SCORE: ____ (add all responses)

c. All (professional) school staff have received a complete orientation to the goals and purposes of Tech Prep; mechanisms are in place to ensure that new staff receive an adequate orientation.

1 2 3 4 5

d. When new teachers are hired, their potential for understanding and supporting the Tech Prep program is taken into consideration.

1 2 3 4 5

e. The principal actively encourages community involvement, understanding, and/or support for Tech Prep.

1 2 3 4 5

f. The school has made structural changes which support and benefit the Tech Prep program (e.g., "A/B" scheduling).

1 2 3 4 5

g. The school has made policy changes which support and benefit the Tech Prep program (e.g., equal weighting for applied and CP courses).

1 2 3 4 5

h. Teachers involved with Tech Prep receive appropriate recognition from the principal.

1 2 3 4 5

i. A school-level planning team, committee, or work group has been formed and is active in helping to continually shape the school's Tech Prep program.

1 2 3 4 5

j. Efforts have been made to involve and inform academic teachers about Tech Prep who are NOT teaching applied academics.

1 2 3 4 5

k. Teachers and counselors have been encouraged to participate in (and most have completed) general in-service activities (e.g., orientation sessions, teacher training institutes).

1 2 3 4 5

l. Teachers and counselors have been encouraged to participate in (and several have completed) additional, or more advanced in-service activities (e.g., PACE Summer Institute, teacher networks, teacher internships, etc.)

1 2 3 4 5

PAGE SCORE: ____ (add all responses)

m. School environment projects a positive climate for Tech Prep (e.g., Tech Prep related information posted on bulletin boards equally with college promotional materials, etc.).
1 2 3 4 5

n. Information and materials for parents have been produced and distributed.
1 2 3 4 5

3. COUNSELING/CAREER PLANNING

a. Registration materials have been redesigned to include Tech Prep information.
1 2 3 4 5

b. Registration materials have been redesigned to emphasize career planning, career information, and post-high school opportunities related to Tech Prep.
1 2 3 4 5

c. Advising materials for students and parents have been developed which illustrate recommended courses for each Tech Prep cluster.
1 2 3 4 5

d. Students are receiving career information through a variety of activities (e.g., through applied academics, shadowing, business speakers, individual sessions with counselors, etc.).
1 2 3 4 5

e. Students complete and maintain a four-year plan.
1 2 3 4 5

f. Counselors are knowledgeable about applied academics and understand how to appropriately place students in these courses.
1 2 3 4 5

g. Counselors provide appropriate services to special needs students in the areas of career planning and educational support (e.g., arranging for tutoring or other services to help students succeed in their class work.)
1 2 3 4 5

h. Counselors are knowledgeable about vocational education (courses/specialities, requirements, benefits) at the high school/career center and actively encourage students to participate.
1 2 3 4 5

PAGE SCORE: ____ (add all responses)

i. Teachers of applied academics are knowledgeable about vocational education (courses/specialities, requirements, benefits) at the high school/career center and actively encourage students to participate.
1 2 3 4 5

j. Counselors have made an active effort to understand opportunities, benefits, and requirements of mid-level technology careers, and related postsecondary technical education programs.
1 2 3 4 5

k. Students have access to resources that help explain opportunities in mid-level technology careers.
1 2 3 4 5

l. High school counselors work with middle school counselors to help students and parents understand the Tech Prep option.
1 2 3 4 5

m. Students are informed of Technical Advanced Placement (TAP) opportunities and are encouraged to participate.
1 2 3 4 5

n. Students are informed of Technical Advanced Study (TAS) opportunities and are encouraged to participate.
1 2 3 4 5

4. LINKING SCHOOL-BASED AND WORK-BASED LEARNING

a. Co-op opportunities are in place and Tech Prep students are encouraged to participate.
1 2 3 4 5

b. Youth Apprenticeship (YA) options are in place either through the school or in collaboration with an area career center; Tech Prep students are encouraged to participate.
1 2 3 4 5

c. Teachers of applied academics have implemented activities where students gain skills or knowledge through a worksite learning experience in ways that relate to their school-based curriculum.
1 2 3 4 5

d. Academic departments structure classroom learning to reinforce work-based learning assignments.
1 2 3 4 5

PAGE SCORE: ____ (add all responses)

5. EXTERNAL COLLABORATION

a. School administrators (principal, assistant principal, director of guidance) effectively utilize Consortium staff and resources to support Tech Prep at their school.
1 2 3 4 5

b. Teachers effectively utilize Consortium staff and resources to support their teaching and instructional needs.
1 2 3 4 5

c. School staff effectively utilize district and/or local business partnerships and/or advisory committees to support their Tech Prep program.
1 2 3 4 5

ADDITIONAL COMMENTS: _____

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PAGE SCORE: ____ (add all responses)

TOTAL SCORE _____ (add all page totals)

AVERAGE SCORE: ____ (divide total score by 49.)

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(12/93; revised 1/10/94)

CAREER CENTER ASSESSMENT INVENTORY FOR TECH PREP IMPLEMENTATION

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Using your best judgment, rank the PACE Consortium career center named below on each of the following characteristics. When ranking, use the scale of 1-5 with 1 being high*, and 5 being nonexistent. Feel free to add comments where you believe they are appropriate.

CAREER CENTER: _____
RATER: _____
DATE: _____

1. CURRICULUM DEVELOPMENT AND INTEGRATION

a. Teachers use various techniques to integrate academic concepts into the teaching of vocational content.
1 2 3 4 5

b. Teachers employ a variety of activities to better integrate related vocational curricula (e.g., joint projects between building construction and electricity classes, etc.)
1 2 3 4 5

c. Teachers use a variety of methodologies, appropriate for diverse learning styles, to teach occupational courses.
1 2 3 4 5

d. Curriculum development efforts are underway to enhance the content of occupational courses.
1 2 3 4 5

e. SCANS competencies are purposefully integrated into vocational curricula.
1 2 3 4 5

f. Teachers effectively tailor instruction to meet learning requirements of special needs students.
1 2 3 4 5

g. Teachers participate in activities with academic faculty to better integrate academic and vocational content.
1 2 3 4 5

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* defined as "high" in comparison to PACE career centers as a whole.

PAGE SCORE: ____ **(add all responses)**

h. Teachers actively participate on articulation committees.
1 2 3 4 5

i. Curriculum sequencing materials have been developed which show the link between ALL occupational specialties and postsecondary (technical college) programs.
1 2 3 4 5

j. Teachers have been oriented to applied academics and understand how these courses relate to and support occupational study.
1 2 3 4 5

2. **LEADERSHIP AND SCHOOL ENVIRONMENT**

a. Teachers receive active, on-going support from the principal (director) for Tech Prep related activities (e.g., joint planning time, encouragement for participation in staff development activities and articulation committees).
1 2 3 4 5

b. All (professional) staff have received a complete orientation to the goals and purposes of Tech Prep; mechanisms are in place to ensure that new staff receive an adequate orientation.
1 2 3 4 5

c. The principal actively encourages community involvement, understanding, and/or support for Tech Prep.
1 2 3 4 5

d. Career Center advisory committees, or boards, have received a complete orientation to the goals and purposes of Tech Prep; mechanisms are in place so that members receive periodic updates.
1 2 3 4 5

e. The school has made structural or curriculum changes which support and benefit the Tech Prep program (e.g., offering exploratory courses).
1 2 3 4 5

f. Teachers receive appropriate recognition from the principal.
1 2 3 4 5

g. A school-level planning team, committee, or work group has been formed and is active in helping to continually shape the school's involvement in Tech Prep.
1 2 3 4 5

PAGE SCORE: ____ (add all responses)

h. Efforts have been made to involve and inform teachers about Tech Prep who are teaching terminal programs, or programs for which there is no obvious postsecondary complement (e.g., cosmetology).

1 2 3 4 5

i. Leadership has been provided to encourage the development of articulation agreements between ALL appropriate occupational specialities and ALL area two-year/technical colleges.

1 2 3 4 5

j. Teachers and counselors have been encouraged to participate in (and most have completed) general in-service activities such as orientation sessions.

1 2 3 4 5

k. Teachers and counselors have been encouraged to participate in (and several have completed) additional, or more advanced in-service activities (e.g., PACE Summer Institute, "Partners in Progress," Integrative Learning training, etc.)

1 2 3 4 5

l. School environment projects a positive climate for Tech Prep (e.g., Tech Prep related information posted on bulletin boards or in classrooms, etc.).

1 2 3 4 5

m. Information and materials for parents and/or the community have been produced and distributed which illustrate the occupational component of Tech Prep programs.

1 2 3 4 5

3. COUNSELING/CAREER PLANNING

a. Pre-registration orientation sessions for students and parents explain and promote the relationship between occupational specialties and the Tech Prep program.

1 2 3 4 5

b. Career center brochures, or other specialized publications, explain and promote the relationship between occupational specialties and the Tech Prep program.

1 2 3 4 5

c. Advising materials for students and parents have been developed which illustrate recommended academic and occupational courses for each Tech Prep cluster.

1 2 3 4 5

PAGE SCORE: ____ (add all responses)

d. Students are receiving career information which explains direct entry options as well as opportunities available after postsecondary training.

1 2 3 4 5

e. Counselors provide appropriate services to special needs students in the areas of career planning and educational support (e.g., arranging for tutoring or other services to help students succeed in their class work.)

1 2 3 4 5

f. Counselors have made an active effort to understand opportunities, benefits, and requirements of mid-level technology careers, and related postsecondary technical education programs.

1 2 3 4 5

g. Counselors are knowledgeable about Technical Advanced Placement (TAP) opportunities and actively encourage students to participate.

1 2 3 4 5

h. Teachers are knowledgeable about Technical Advanced Placement (TAP) opportunities and actively encourage students to participate.

1 2 3 4 5

i. Students have access through the career center to resources that help explain opportunities in mid-level technology careers.

1 2 3 4 5

4. **LINKING SCHOOL-BASED AND WORK-BASED LEARNING**

a. Co-op opportunities are in place that are well integrated with the curriculum, and students are encouraged to participate.

1 2 3 4 5

b. Coordinated co-op opportunities are in place (i.e., linked purposefully with postsecondary curriculum and co-op), and students are encouraged to participate.

1 2 3 4 5

c. Youth Apprenticeship (YA) options are in place, and students are effectively selected and placed in meaningful, curriculum-related worksite learning experiences.

1 2 3 4 5

PAGE SCORE: ____ (add all responses)

d. Activities have been implemented whereby worksite learning projects are obtained from co-op/YA students and integrated into occupational classroom activities for the benefit of other students.

1 2 3 4 5

e. Efforts have begun through which worksite learning projects are obtained from co-op/YA students and integrated into applied academics courses for the benefit of other students.

1 2 3 4 5

5. **EXTERNAL COLLABORATION**

a. School administrators (principal/director, Co-op/YA Coordinator, counselors) effectively utilize Consortium staff and resources to support Tech Prep at their school.

1 2 3 4 5

b. Teachers effectively utilize Consortium staff and resources to support their teaching and instructional needs.

1 2 3 4 5

c. School staff effectively utilize district and/or local business partnerships and/or advisory committees to support their Tech Prep program.

1 2 3 4 5

d. School staff have implemented outreach activities with elementary and/or middle schools to help teachers, counselors, and students understand Tech Prep/YA, occupational specialities, and mid-level technology career opportunities.

1 2 3 4 5

ADDITIONAL COMMENTS: _____

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PAGE SCORE: ____ (add all responses)
TOTAL SCORE: _____ (add all page totals)
AVERAGE SCORE: _____ (divide total score by 41.)

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